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ABSTRACT

The Dedication Address was given by Gordon N. Ray. Alan R. Taylor presented "A Model of Academic Library Service," which was followed by "Views and Reviews," given by Edwin H. Cady; "Comments on 'A Model of Academic Library Service'," by Stephen A. McCarthy and "Critique of Taylor Paper," by Marvin E. Olsen. The other speeches given at this dedication are entitled: "Library Dedication Speech" by Joseph R. Hartley; "Academic Library Management," by John H. Moriarty; "Service and Housekeeping," by Eldred Smith and "Staff Role in Goal Determination" by David Kaser. (NH)

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Papers Delivered at the
INDIANA UNIVERSITY

Library Dedication

Bloomington Campus

OCTOBER 9-10, 1970

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Introduction

The papers which follow were read on the occasion of the dedication of the new library building at Indiana University, Bloomington, on October 9 and 10, 1970. With the exception of the dedicatory address by Gordon N. Ray, which appears first, the remarks are presented in the order given.

"A Model of Academic Library Service" by Alan R. Taylor was the focus for a symposium devoted to academic library service. Professor Edwin H. Cady, using his prerogative as long-time Chairman of the Faculty Library Committee and consultant to the President of Indiana University on library affairs, appropriately digressed from the role of discussant to place on record some of the history and the names of a few of the individuals involved in the various planning stages which led to the new building. He further made some profound observations for future library development.

Stephen A. McCarthy and Professor Marvin E. Olsen were mildly and gently critical of Mr. Taylor's model.

Dean Joseph R. Hartley delivered the University address to guests attending the dedication dinner on the evening of Friday, October 9.

Saturday morning, October 10, was devoted to a symposium on library management—old and new style. The three participants, John H. Moriarty, Eldred Smith, and David Kaser, speaking from their accumulated experiences and observations, offered different approaches to a managerial style for academic libraries.

Gordon N. Ray's dedicatory address was so timely and significant that permission was granted to *AB Bookman's Weekly* (November 16, 1970) and to *The Review* (February, 1971), an Indiana University publication, for publication previous to its appearance here.

Cecil K. Byrd
Indiana University Library
January, 1971

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Indiana University Library Dedication Address

by GORDON N. RAY

4 The dedication of this splendid new Library has been chosen as the climactic event in Indiana University's Sesquicentennial celebration. Although this decision necessitated delaying the dedication ceremony for sixteen months after the building's actual occupancy, no more appropriate choice could have been made. When the Library's site was selected in 1940, even when its construction was decided upon in 1962, it was seen as one more step, though obviously a very important one, in the orderly development of a stable institution, the purpose and usefulness of which were hardly open to question. Its dedication in 1970, when the plague of politicization has infected Indiana as it has all of our great universities, becomes a reaffirmation of faith in disinterested learning in a time of doubt and trouble.

As it happens, the Library has a particular interest for me. I knew Indiana University best as an undergraduate between 1932 and 1936. That too was a political age; one in which a far larger part of our population than today had reason to complain about the existing state of things. And complain they did, but they did not take the universities as their bases and targets. I had gone to a very good high school in a northern suburb of Chicago, and, as I look back, candor compels me to admit that several of the classes which I took as an Indiana freshman represented a decline from those I had at New Trier. (Of course this was long before the University had achieved its present eminence.) My program included a course in French, for example, where the main work of the semester consisted of learning the equivalent terms in that language for the parts of an automobile, this being the instructor's hobby. I exempt from my adverse judgment a lively class in economic history taught by Chancellor Wells, then an instructor in the College of Commerce, though I have to confess that thirty-seven years later I can specifically remember only one thing about it. Mr. Wells said in his first lecture that he would wear a different tie to every meeting—and he did! Many of the students I knew seemed perfectly ready to accept what was offered them as long as they were not distracted from sports, social life, and making "contacts" which would be useful to them later on in the "real" world—that is, world of competitive mid-America beyond campus boundaries where the all too audible majority of those days was firmly in control.

You may be reflecting that this was not a propitious intellectual setting, but you would be wrong. These imperfections didn't really matter, for

there was the University Library. It was not only the shortest way out of Bloomington, as disgruntled students used to say, but it was also the University's chief educational instrument. Though the building had barely reached its quarter century, it even then had an old-fashioned air about it—an air of being a pleasant backwater, remote from the busy, workaday world—which suited well with the promise it held out of that endless, unhurried reading by which bookish youngsters "make the happiness they do not find." Even freshmen in those days could arrange to wander through the stacks at will, and I must have been one of thousands of students who dated their intellectual awakening from the chance they were thus afforded of following freely from book to book whatever subjects engaged their attention.

At any rate, I left Indiana University with the conviction that the Library was its heart and soul. In the years that followed, I had the opportunity of seeing close at hand, as American universities became more vital to the national welfare and as the services they rendered grew more extensive and sophisticated, how their libraries came to be of central importance to nearly every university activity. It must be granted, nonetheless, that this rise in status has been attended by certain disadvantages. Libraries are now "big business," and if no one thinks of them any longer as pleasant backwaters, the sort of self-education encouraged by their former character has perhaps been rendered less easy. Moreover, under the sharp and continuous scrutiny to which libraries are now subjected, a series of threats to their well-being has developed which has caused them to exist in a state of permanent crisis. Let me characterize the chief menaces of the immediate past, the present, and the immediate future.

In 1966 Mr. Marshall McLuhan made his famous pronouncement that the book was "obsolescent." "It is like the dinosaur just before it disappeared," he contended. "It is having its last big splurge." Just as western civilization shifted from manuscript to print in the latter half of the fifteenth century, he maintained, so in the present electronic age we are shifting from print to the image and the spoken word.[1] For a time Mr. McLuhan's deliverances caused a good many people, including some economy-minded university administrators, to ask if libraries needed to be supported any longer on the grand scale. But now the high tide of McLuhanism has receded, and if anything the book is even more thoroughly established than before as the principal means of serious human communication. Indeed, communications engineers themselves have sometimes been turned into book lovers as their researches have piled up evidence concerning what books can do and electronic gadgets cannot. Listen, for example, to Mr. Bruno W. Augenstein, a physicist who is Vice-President of the Rand Corporation:

> If we compare a book with a typical electronic gadget, the first thing that strikes us is that the book is (naturally) anthropomorphic to a far greater extent, and can be used in a variety of ways which the electronic gadgets cannot. . . .
>
> Some of the information features of the book, particularly as contrasted to electronic gadgets, which appeal to me are:
>
> The match to the human scale (the hand and eye particularly).
>
> Portability, no artificial power needs or requirement for power outlets. . . .
>
> Indefinite storage life without degradation.
>
> Relative permanence of information, compared to risks inherent in electronic devices where sheer inadvertence can destroy the information.

> Ability to function as an information transmission and storage device over an extremely wide range of environments.
>
> Excellent file, random access, and search features.
>
> Ability to mark up, annotate, or make manual corrections on text.
>
> High information-density capability.
>
> Immediate usability (no needs for warm-up, programming or reprogramming, reformatting, etc., as your use requirements shift). . . .
>
> Moreover, a book can be a work of art: in binding, typography, paper manufacture, texture, visual imagery, design, and so on. . . . Also, as a human artifact, a book provides much more of historical continuity than does an electronic gadget. . . . In short, a book appeals to many more needs, senses, and appetites than its competitors can hope to do—and that is why I doubt that book collecting will ever be seriously eroded as a pursuit by the collection of electronic gadgetry.[2]

The present menace to university libraries is of a more sinister kind. Perhaps I can best set the stage for my account of it with an anecdote from Jim Bouton's *Ball Four*, a candid diary of the 1969 American League baseball season. During a game between the Yankees and the Seattle Pilots a disagreement led to the players of both teams erupting from their dugouts onto the field. The ensuing melee was not serious, few baseball fights are, but the Seattle police nonetheless intervened to restore order. Whereupon Ralph Houk, the Yankee manager, was heard to exclaim in outraged tones: "What the hell are cops doing on the field? . . . I've never seen cops on the field before. They ought to be at the university where they belong."[3]

But even if we accept the astounding assumption that for the first time in American history the natural locale of violence is the university, we might still think that university libraries would be spared. Surely even today they remain relatively quiet places, refuges from what Henry James called "the bigger brutality of life." Yet, in fact, they have turned out to be accepted targets for attack. From one coast to the other attempts to damage or destroy their collections and the buildings in which these collections are housed have occurred. At Harvard in the spring of 1969, for example, a volunteer guard of professors, which included some of the most distinguished scholars in the country, maintained a watch in Widener and Houghton Libraries for ten nights in a row in order to repel possible assailants. Serious loss was avoided there, but some universities have not been so lucky. Unhappily Indiana University's misfortunes were the worst of all.

On February 17 and May 1, 1969, fires in the basement of the old Library destroyed 4,000 volumes of newspapers and 40,000 books. These collections were important parts of the University's holdings in American history and German literature, the latter amounting indeed to half of Indiana's strength in that area. Every effort is being made to replace what was destroyed, but at best this will be a long and difficult process. Reflecting on this episode, one cannot but remember some hard words from a hard man. Hundreds of libraries in the English-speaking world have inscribed over their portals the famous sentence: "A good book is the precious life blood of a master spirit, embalmed and treasured up on purpose to a life beyond life," but few people remember the antithesis with which Milton began this sentence in his *Areopagitica:* "Many a man lives a burden to the earth."

The future threat to the welfare of university libraries is one that has

always been present but which the next few years will see intensified to the point of crisis. Whereas universities have been accustomed for many years to live with an annual growth rate of 10 percent, it appears that they are now going to have to adjust themselves to an annual growth rate of 2 or 3 percent.[4] In the resulting period of financial stringency every university activity will be required to justify itself. Most will inevitably be held to fixed or even declining budgets, and only a few will receive what might be called "most favored nation" treatment. How will libraries fare in the bitter internal struggle for priority status which is bound to result?

The question is a crucial one, for there are built-in inflationary factors in every university library budget. I am thinking not only of the mounting cost of books and periodicals and of the rising salaries needed to recruit and retain the highly trained experts who handle these materials, but also of the multiplier imposed by the growth of knowledge itself. Take, for example, the category of serials, that is to say scholarly, scientific, and technical journals, which in university libraries account for between one-third to two-thirds of the total acquisition budget.

> Every minute of the day an estimated 2,000 pages of text comes off the presses of the world. Seventy-five thousand scientific and technological journals are being published in 65 different languages and more are being born daily. The total number of articles these journals print annually exceeds a million. Over 3,000 abstract journals attempt to compress these materials into manageable proportions.[5]

These were the figures for 1961. I have seen none of more recent vintage —perhaps because librarians find them too horrendous to contemplate— but they must now be a great deal higher, and they will go on rising. Yet a librarian cannot say: we will add no further specialized journals. Universities extend through all areas of knowledge, they ask their faculty members to be scholar-teachers, and the scholar or scientist in each of the hundreds of fields into which knowledge is now fragmented has to have access to the latest findings in the journals of his discipline.

The urgency of steadily maintaining a university library's program of acquisitions can hardly be overestimated. The concept of "deferred maintenance" simply does not apply in this area, in part because library collections, unlike scientific equipment, are not replaced but added to. During the time I have known the American academic world, I have seen several great universities—Chicago, Michigan, and Stanford, to mention only the most salient examples—slight their book budgets over a period of years in order to find funds for other programs. They have subsequently seen the error of their ways and have embarked on desperate "catch up" campaigns, only to discover not only that the dollars thus belatedly provided buy far less than in the past, but also that the missing books simply aren't available any longer.

Harvard University has always been the bellwether for American university libraries. A study conducted in 1966 predicted that if the Harvard College Library merely maintained its existing level of acquisitions and services, its annual operating expenses would reach $18,000,000 by 1980. The accuracy of this prediction was not questioned then; one guesses today that, if anything, it has become a gross underestimate. The Harvard University Library's operating expenses for the last academic year were approximately $10,000,000; Indiana's for the same year were

more than $5,000,000. Hence if Indiana too is to do no more than maintain its present library program, it will somehow by 1980 have to meet an annual bill of at least $10,000,000.

You may be asking if the Indiana University Library deserves this sort of continuing investment. I welcome this question because it allows me to turn from gloomy forebodings to praise of present accomplishments. In what follows I can only hope that the University's professionals, Mr. Miller and Mr. Byrd, will forgive my carefree, amateur approach to their subject. Putting aside such important matters as information retrieval and interlibrary cooperation, which receive due attention at Indiana, I shall speak only of three crucial elements in its library complex: the service collection, the general research collection, and the rare book collection. The first two overlap to such an extent that they can fairly be considered together. Indeed, like other leading state universities, Indiana has in effect smuggled a thriving general research collection into Bloomington under the cover of its service collection. That is to say, it has justified in terms of rising undergraduate enrollments, library appropriations which have, for the most part, gone for books and periodicals used by faculty members in their research.

Not that Mr. Wells, Mr. Stahr, and Mr. Sutton deserve anything but praise for their budgetary sleight of hand. Indiana University's great achievement during the past thirty-five years has been to raise itself into the circle of elite American universities (I would myself put it among the top twelve in quality) despite a comparatively narrow financial base. It has done this by a consistent emphasis on academic excellence everywhere in its program: in its selection of faculty, in its admission standards, and, not least, in its library collections. So in 1969 Indiana ranked thirteenth among American universities in the number of volumes in its library and eleventh in total library operating expenses,[6] even though it fell several notches below these rankings in its total academic budget. And now, of course, it has provided a fitting capstone to this record with the imposing building which we are dedicating.

The final component in the Library's holdings gives Indiana University a quite special asset. The Lilly Library, which reached its tenth anniversary only last week, has become within this short period of time one of the country's great rare book centers. Only a handful of universities in the United States have anything like the wealth of special collections which Mr. David Randall, Indiana's own "grand acquisitor," has assembled there, with the munificent patronage of Josiah K. Lilly and Bernardo Mendel and the constant support of Chancellor Wells. The Lilly Library is strong in a wide range of materials drawn from the past, including British and American literature from the late seventeenth century on; British history from 1640 to 1800; American history from colonial times on; Latin American history from Columbus through the independence period; European expansion from Marco Polo to Captain Cook with emphasis on the Spanish, Dutch, and Portuguese empires; landmarks in the history of science, medicine, and technology; and American popular music from the late eighteenth century through the 1940's; not to mention "high spots" in numerous other fields. Under the direction of Mr. Randall and Mr. William Cagle the Lilly Library has also developed an imaginative program for bringing together important primary materials illustrative of today's culture and history. For example, the first editions of more than 300 living authors are bought as they appear, ephemeral publications documenting the social and political unrest of our time are sought out and preserved, and the papers of leading scientists

and politicians are being acquired as opportunity permits.

Indiana University is particularly to be congratulated on the harmony which has prevailed between its general research library and its rare book library. It isn't always easy to persuade Dobbin and Man of War to run in double harness. If a professor is denied a $40 subscription to allow him access to a learned journal in his departmental library as well as in the main library, he may take personal offence when he reads that his university has acquired a rare book for $4,000. There was an unseemly row at the University of Texas this summer, for example, during which a member of the faculty library committee denounced that University's remarkable collection of rare books and manuscripts in a series of articles with such titles as "Library Plight Blamed on Caviar."

This line of criticism is not only petty but ignorant. Usually rare book collections are developed, as they have been almost entirely at Indiana, out of gifts. Collectors who wouldn't think of aiding a university in any other way will sometimes be overwhelmingly generous in adding to its rare book library. Their state of mind may be irrational, but it is also a fact of life. Moreover, rare book libraries afford the best possible illustration of the truth in Voltaire's paradoxical phrase, "le superflu, chose très necessaire." Great public institutions like the Bibliothèque Nationale, the British Museum, and the Library of Congress; great private institutions like the Morgan Library, the Folger Library, and the Huntington Library; the libraries of great universities like Oxford, Harvard, and Yale —all these taken together contain the primary sources on which our knowledge of the past is based. They belong far more to the world community of scholarship than to whatever local clientele they may serve. That Indiana University is in the process of becoming a link in this great chain should be regarded as one of its chief distinctions.

I return finally to a topic on which I touched earlier when I remarked on the seeming anomaly of dissidents choosing university libraries as targets. The public finds these attacks bewildering, yet a little consideration will show that there is a dreadful logic behind them. To an anarchist only the present is important. Libraries are massive reminders of the long view, of the degree to which the past controls the present. Their very existence constitutes a denial that society is bankrupt, that our current problems are so urgent as to be possibly terminal, that the four horsemen of the apocalypse will shortly ride us down. In society's balance sheet they represent the capital funds of the mind. Hence those bent on the destruction of the present system have some reason to regard them as objectives of strategic importance.

Let me illustrate this point by an episode from the early life of Dame Rebecca West, whose career I have recently been studying. (Some of you may know one or another of her novels from *The Return of the Soldier* to *The Fountain Overflows,* or her classic study of Yugoslavia, *Black Lamb, Grey Falcon,* or perhaps *The Meaning of Treason* in which she deals so expertly with the psychology of political fanaticism.) Dame Rebecca grew up during the years before the first World War when feminist agitation in England reached a pitch that makes our own Women's Liberation movement seem colorless by comparison. While still in her teens, she made herself the most eloquent and forceful of the feminist writers of those days through her articles in the *Freewoman* and the *Clarion.* But this brilliant girl, though she burned with indignation at the inequity and grossness of her age, took too broad a view of the human situation to remain permanently a political fanatic. After seven years of militant agitation for

women's suffrage, and indeed for radical principles generally, she found herself reflecting during a time of meditation that followed a crisis in her personal life:

> One has to use flame to burn the galloons [gaudy trimmings] from Europe and the tame squalor from life, and in the end one may so easily turn this weapon of fire on oneself. By the heat of its desires and adorations the mind may become like hot wax: incapable of receiving the sharp impressions which are all it lives for. The fire by whose blaze the soul is meant to lighten the world may burn it down to its foundations and leave it a smoking ruin. . . . The fervent purpose may destroy its instrument and die frustrated. It brings not only personal disaster but it is a treachery against the orderly procession of generation after generation which we call life. . . . The tragic hurt the community: they live impulsively, they spread excitement, they make preposterous demands on the patience and service of those of goodwill. They wreck the peace for which the race must seek for the sake of the future.[7]

This remarkable personal document shows a young revolutionary converted to philosophical conservatism by her reflections on what her reading has told her about humanity's past. She came to see that political passion threatened her very *raison d'etre* as an intellectual by dimming the clarity and precision of her mind, and she concluded that the continuity of life which she had been trying to destroy, "the orderly procession of generation after generation," was in fact necessary to the "peace which the race must seek for the sake of the future." When Dame Rebecca wrote this essay she was still only twenty. The conversion that it records was the basis for the comprehensive and humane outlook which has made her subsequent career as a writer so distinguished.

I have tried today to suggest why the dedication of Indiana University's new Library as the culmination of its Sesquicentennial celebration may be regarded as a symbolic act. Let us hope that the ideals for which this building stands will still flourish fifty years hence. If they do not, the University may never celebrate its Bicentennial.

Gordon N. Ray is President, John Simon Guggenheim Memorial Foundation.

Footnotes

1. See my article, "The Future of the Book," *ALA Bulletin* (September 1966), pp. 783-85.

2. *UCLA Librarian*, February 1970, as quoted in *AB Bookman's Weekly*, 3 August 1970, p. 204.

3. Jim Bouton, *Ball Four* (New York, 1970), p. 161.

4. Allan Cartter, "The After-Effects of Putting the Blind Eye to the Telescope," Association of Higher Education Meeting, 1970.

5. *Report of the Commissioner's Committee on Reference and Research Library Resources* (University of the State of New York, 1961), p. 5.

6. Association of Research Libraries, *Academic Library Statistics*, 1968-69.

7. Dame Rebecca West, "Trees of Gold," *New Freewoman*, 15 June 1913, p. 6.

*A Model of Academic Library Service**

by ALAN R. TAYLOR

One would do well to remember the old Kantian maxim that experience without theory is blind but theory without experience a mere intellectual play.
Ludwig von Bertalanffy
General System Theory, 1968, p. 101

Communication has been defined by Raymond Ross, author of a well-known textbook on speech communication, as "a process involving the sorting, selecting, and sending of symbols in such a way as to help a listener recreate in his own mind the meaning contained in the mind of the communicator."[1] For Jurgen Ruesch, a professor of psychiatry, however, "the concept of communication would include all those processes by which people influence one another,"[2] and he proceeds to enumerate and briefly describe sixteen different modes of communication ranging from written communication to communication through the arts.[3]

The fundamental premise adopted (but not argued) in this paper is that the function of the library—and hence of librarians—is concerned with the communication process or system of communication between a group of communicators whom we may conveniently label *authors* and another group we may call *readers*. That a particular individual may belong in one group at one moment and in the other at another is irrelevant for the time being. The characteristic which distinguishes our authors from other kinds of communicators is that their elected medium of communication is the written or printed word; and readers as a group of receivers of communications are distinguished from other receivers by selecting the same medium. Hence an author cannot communicate with an illiterate through the medium of the written word; if any communication at all is to take place between them, an alternative medium will have to be selected by both individuals.

A corollary to the first premise is that broad generalizations about the function of the library, and indeed about the profession of librarianship, therefore should relate directly in some way to the theory of communication.

Since we are dealing with a communication process or system, one valid approach to problem-solving or analysis is the device of model building, that is to say, building a model in the manner defined by Enders A. Robinson as "a simplified and idealized abstraction whose purpose is

**In developing the ideas represented in this paper I have to acknowledge the assistance rendered by my students over the past few years and, in particular, thank April Legler, Lester Pourciau, and J. Michael Rothacker, who were both critical and constructive.*

to approximate the behaviour of a system."[4] As Herman A. O. Wold indicated:

> New ideas take the form of new models; there are verbal models vs. highly mathematical-formal models; there are models that aim at forecasting, and other ones that have no further aspirations than an analysis of the past; and so on and so forth. Each branch of science is a collection of models.[5]

Bearing in mind not only Robinson's strictures that "a model of necessity must always be a compromise between simplicity and reality,"[6] but the encouraging utterances of Herman Wold that "the road of model building has no end. If a successful model is built, this means that more time and effort can be devoted to problems that have not yet been mastered,"[7] we may turn to existing models of communication as a basis from which to build one of our own.

Ross, for example, presents communication models by H. D. Lasswell, John B. Carroll, D. K. Berlo, Sister Ignatius Marie Wulftange, three by Wilbur Schramm, and one by Claude Shannon and Warren Weaver which has been widely used in information science.[8] Jurgen Ruesch and Gregory Bateson have described similar models,[9] and on other occasions we have used the model presented by Leonard Doob in *Communication in Africa*.[10]

The Shannon and Weaver model of a communication system seems to me to serve as a useful starting point, and it is set out schematically in figure 1. It consists of an *information source*, which selects a *message* out of a set of possible messages; a *transmitter*, which changes the message into a *signal*, which is sent via a *communication channel* to a *receiver*, which changes the transmitted signal back into a message to arrive at the final *destination*.

In oral speech, Weaver explains, the information source is the brain; the transmitter is the voice mechanism producing the varying sound pressure (the signal) which is transmitted through the air (the channel); the ear and the associated eighth nerve is the receiver; and the brain of the auditor is the final destination.[11] The model is further elaborated by adding a *noise source;* the concept of *noise* is defined as anything which is responsible for making unwanted additions, distortions, or errors which change the transmitted signal.[12]

Shannon and Weaver are primarily interested in telecommunications, the nature of "information," and the message-carrying capacity of radio and telegraphic channels, but I suggest that their model serves as a useful conceptual framework around which we may construct a model appropriate to the graphic communication system between our authors and readers, the system which is predicated on the medium of written and printed documents. For the moment I would like to concentrate on documentary materials, printed books and journals, the traditional stuff of libraries, in order to keep the model as simple as possible for the purposes it is intended to serve. To those who would complain and point out that libraries are now concerned with other media and are no longer exclusively concerned with documentary sources, I would argue that this development supports, and does not detract from, my original premise that libraries are concerned with communication. For certain purposes, however, it may be more appropriate for an author to communicate with his readers through an alternative medium. Poetry and the drama dwell in the realms of both written and verbal arts. A phonographic or tape recording of T. S. Eliot's

The Wasteland, for example, may be a more suitable medium for communicating the author's sense of verbal aesthetics; for the scholar intent on stylistic analysis of the poem, however, the printed text would surely be the most suitable medium. An elementary guide to the dissection of the frog in the form of a colored filmstrip would, I imagine, be of greater value to a beginner in the laboratory than a printed technical manual or even a recording of verbal instructions without further visual aids.

In our model, by definition, our source is the author, and to maintain a high level of abstraction this term is intended to convey all authors, singular and plural, individual and corporate, living and dead; our destination, the reader, on the other hand, is singular, individual, and very much alive. Our model will not tolerate any dead readers!

Let me proceed to elaborate the model to complete at least the most significant steps in between: clearly an author has to verbalize his message—if only in his own mind—and to encode his message by means of a script or other writing system, in order to produce (what for our purposes will be the first in a subseries of channels) what I am going to call the *ultimate manuscript*. *Ultimate manuscript* is an admittedly clumsy term to present "that particular form of the author's message which the author himself wishes to communicate to his readership," and the version the author submits to his publisher. The ultimate manuscript is as likely as not to be a typescript, and if the author is wise it will be an electrostatic copy, but the general notion is, I think, a useful and valid one.

Now most of us are well aware of the increasingly significant role which publishers' editors play in altering or otherwise amending the work of authors—particularly of literary authors—but the practice is quite widespread in newspaper, magazine, and journal publishing, too. Glancing back to the Shannon and Weaver model for a moment, one can deduce that editorial activity in this manner may be considered an example of noise.

A publisher or quasi-publisher* carries out two separate functions: the first is the editorial function, under which the ultimate manuscript may undergo certain changes as it is prepared for printing or reproduction by whatever method selected; the second is the distributive function. It is necessary then to show each of these steps in the elaboration of the model.

Having elaborated the channel and delineated *process* in the shape of a triangle and *thing* (object or institution) in the shape of a box, our model thus far will, in diagrammatic form, resemble figure 2.

At this point it becomes necessary, for reasons which will become clearer subsequently, to introduce yet another variant in the channel, one that was merely touched upon in passing above—the variant physical forms in which messages from authors are published. Here I would like to distinguish the five most significant physical forms of graphic communication, namely *reference books* (books in which the content is so arranged that they are intended to be consulted, rather than read from cover to cover), *books* and *monographs, pamphlets, periodicals* and *magazines,* and *newspapers,* and glide over the facts that we know there are people who read the *Encyclopedia Britannica* and the Manhattan telephone directory from cover to cover, that almost any book can be used as a reference book

*Quasi-publisher *is the term used to include all those associations, institutions, agencies, or individuals whose prime function is not publishing, but who may choose to publish on their own behalf reports of research or other activities. Thus a university press is not to be regarded as a quasi-publisher, but a university library which publishes any kind of publication under its own name may be considered a quasi-publisher.*

under certain circumstances, and that it is extremely difficult to produce a clear, concise, and meaningful definition of each of the categories enumerated. At this point I am anxious to maintain a level of broad generality and merely distinguish certain categories which libraries usually recognize and to which they afford some special kind of treatment.

The model at this stage still lacks an important component in the commercial channel in the communication system, namely the bookstore. Once again, since we are operating in the highest realms of abstraction, it is quite permissible to include in this box every conceivable form of purveyors of printed matter, from the street corner newsstand and the drugstore paperback counter to full-scale bookstores such as Brentanos of New York, or Blackwell's of Oxford. At the same time we have to make a place within the system for the secondhand or antiquarian bookstore, recognizing that it does not form part of the same channel but acts as a recycling device from one "generation" of readers to another, so that the lines have to be drawn slightly differently. All that remains is for us to add the reader with his eye and optic nerve, and the model of our communication system is complete. The diagram in figure 3 represents the bare minimum essentials in our primary system of communication between authors and readers. I suggest that it is an adequate model of the author-reader communication system which holds whenever a reader obtains his reading matter without recourse to a library. And from what we know of the private circulation and sale of books, periodicals, and newspapers, it takes place without recourse to the library frequently enough to be regarded as the norm, that is to say the rule rather than the exception.

At this point I would like to suggest that the library is literate society's device to facilitate the system of communication between author, past and present, and readers. We have then to elaborate the model still further so that we can consider not only the primary communication system already discussed, but the secondary communication system via the library; in this instance I wish to focus particularly on the academic library. But the academic library is in itself a separate subsystem, far too complex to be shown in our model by a simple black box. It is necessary in the first place to augment the model by delineating the fact that a process of selection takes place determining which materials are to be accepted into, or acquired by the library. Selection is carried out by three different groups: (1) the *bookstore* (i.e., usually a wholesaler or jobber) by a system of standing or blanket orders; (2) the *faculty*, which represents a special group of library users outside the system; and (3) the *librarians*. We have denoted this by drawing three triangles (indicating the selection process) in each of the appropriate places in the schematic representation of the model.

Although many librarians commonly consider the library system as though it were bifurcated into the so-called "technical services" and "public services" divisions, the traditional dichotomy is, in my opinion, not merely irrelevant but positively harmful. For the purposes of our model, we wish to identify only the fundamental functions or processes carried out within the library—acquisition, cataloguing, classification, reference, and circulation. Special attention is also given to the most important different forms of material which, because of their physical differences or some other characteristics, traditionally require some kind of special or separate treatment in the library store. The model has already recognized five different categories (reference books, books and monographs, pamphlets, periodicals and magazines, newspapers); to these it is appropriate to add

rare books, government publications, theses, and *microforms,* the last usually being a mere substitute for one of the forms already mentioned. We could continue and mention maps and atlases, and all sorts of other varieties of books and documentary nonbook materials such as plans, manuscripts, and archives, but I do not wish to overload the diagrammatic representation with excessive detail.

The model, at its present stage of development, is set out in the diagram in figure 4 with the detail of the academic library subsystem in figure 4a. It still lacks an important component, however. We have structured our model in terms of a communication system and said practically nothing at all so far about the nature of that which is being communicated, preferring to cloak the nature of the communication with the technical term *message.* This is the point where we have to diverge radically from the information scientists who care a great deal about the characteristics of messages. Unfortunately the information scientists have pre-empted the rather handy term "information," and have endowed it with highly specialized meaning. For the purposes of our model we are only concerned with showing that the messages which flow through our communication system may or may not convey information, but we would like to stress their extraordinary diversity.

It may be useful, however, to postulate the existence of a kind of "reservoir" of knowledge, opinion, and aesthetic and cultural experience available to an author, and note in passing that an author may, in selecting and formulating his message, utilize any one of a combination of his mental and physical faculties—imagination, cogitation, memory, perception, observation, etc.—in drawing upon this reservoir. If we wished to be more precise, we could make some sort of distinction between the reservoir available to a culture or a society on the one hand and a particular individual on the other. Let us for the moment lump them all together and assume that the size and composition of the reservoir available to a particular author are determined by the culture to which the author belongs, as well as the erudition and experience with which he personally is endowed. Presumably an author like C. P. Snow possesses a singularly large personal reservoir, and it is the same reservoir whether he is communicating in the form of a novel like *The Masters* or the other works in his "Strangers and Brothers" series, or whether he is communicating in a polemical form, a work such as *The Two Cultures.*

At this point I would like to consider for a moment another institutional device created by literate society, namely the university. The university may be defined in various ways, but regarding its primary functions the authorities are practically all agreed. Commenting on what he clearly perceived as the dual function of the university, our own Chancellor Byrum Carter used the following words:

> It [the university] is the carrier of the intellectual traditions of its culture. It is the conservator of our past, obliged to pass it on to a new generation, thus ensuring the continuity of civilization and civility. But the university is also the reinterpreter of the past, the critic of the present, and the tester of the novel.[13]

Implicit in these words is first the idea that the prime function of the university is the conservation and communication of the contents of a society's reservoir, which we have postulated. The second implication is that to augment and enlarge that reservoir by means of research is the

other function. I suggest that the central position of the library in the university is derived from the fact that the medium most widely used for both conserving and communicating the contents of this reservoir is the printed document, and it is this factor which imbues our academic and national libraries with their singular importance in society.

In an earlier era the university library in Europe and the United States seems to have placed greater emphasis on its role as conservator and, indeed, in so doing functioned to the positive detriment of the communication process. More recently the university library has learned to combine the functions of conservator and communicator, and while it would be unfair to regard the library as an impediment in the research process in general, its role is more akin to that of passive acquiescence. I would like to suggest that the university library has a much greater potential as a more dynamic agent in both the communication process and in the research process than is generally realized by most librarians and by the scholars who utilize libraries.

The model is, as we said at the outset, a model of a communication system, but it is also a model of the bibliographical process in the sense that Egan and Shera define bibliography—as ". . . a carrier system for ideas and information analogous to a well-articulated railroad system for the transportation of physical commodities."[14] But further in their paper they define bibliography as "a means for locating a graphic record of the content desired by the prospective receptor,"[15] the dynamics of which, they go on to suggest, are the reverse of the dynamics of mass communication. While I am in basic agreement with most of Egan and Shera's ideas in this regard, I would prefer for the time being to label the communication process from left to right in the model as "the bibliographical process" and its *reverse* as the "bibliographical research process."

While our model presupposes the existence of an enormous number of authors generating a countless number of different messages with random and unknown destinations, we may readily assume that a particular reader in the university environment is unlikely to be satisfied by being fed messages at random. The message needs of the university reader are predetermined, and it is possible to hypothesize about some of the ways in which this predetermination takes place. In the most elementary situation the reader's message needs are predetermined or assigned by his professor, usually in a very specific way which includes the name of the particular author and all the details of the channel—in other words the title of the book or journal article, probably the imprint too, and the assumption that the book may be found in a particular library. Thus, the reader approaches the communication system via the library subsystem with all the necessary data. It is like handing a person a telephone with a jack, all the necessary connections already having been made. Then all he needs to do to receive the correct message is to plug in the jack.

The standard method which university libraries utilize to facilitate communication in this situation is to create a so-called reserve system in which the contents of the collection are predetermined by the reader's professor. It is a very straightforward and uncomplicated system with simple aims, and we may note that it conforms to the cybernetic view that "the structure of the system is an index of the performance that may be expected from it."[16]

The reserve system is quite adequate to perform the functions expected of it; but we would be unwise to expect anything more of it. Yet there is good feedback in this system, and its major problems are usually derived from outside the system in areas over which neither the librarian nor the

professor can exercise any control (e.g., missing books or stolen books unreported; bookseller's inability to supply a book quickly enough).

The situation which we have just described represents the most elementary use of the academic library system by a potential user. It is so elementary in fact that a particular professor may elect to avoid it altogether and opt for the other system—the commercial nonlibrary system —by prevailing upon his students to purchase all their assigned readings at the bookstore. Or the professor may go one step further by preparing, mimeographing, and selling to students copies of the required texts. In this instance he is acting as his own publishing and bookselling channel.

The really interesting problems in university librarianship, however, occur when we consider user needs at the other end of the spectrum—in the complex situations which arise when the reader is a research scholar in the humanities or the social sciences. By research scholar I am thinking of a graduate student conducting research for his dissertation or a faculty member pursuing postdoctoral research. If we define research as any activity designed to enlarge the boundaries of present knowledge, then some kind of library or bibliographical research will have to be undertaken to establish what those boundaries presently are before they can be enlarged, even though the "pure" research may actually be carried out in the field or in a laboratory situation. Some pure research, particularly in the humanities and in the realm of ideas, does, of course, take place in the library.

Various factors distinguish the elementary from the complex situation. In the latter the researcher is self-assigning in his message needs; in the initial stages of his research, moreover, he is often unable to identify any of the channels with the greatest likelihood of carrying the messages he is seeking. In the elementary situation the reader is concerned with a restricted and identifiable number of messages; in the complex situation the researcher is anxious to have available *all* those messages with potential relevance to his topic in order that he himself may make a selection. Looked at in another way, it is possible to imagine the researcher poised on the right-hand side of the model faced with the task of obtaining the knowledge he needs from the reservoir, which we postulated as lying behind the author, at the extreme left of the model. The channels in the model are rather like a maze, and, like the laboratory rat, the researcher has to make his way through the maze to the other side by the shortest possible route, avoiding dead ends wherever possible.

There is a direct route, however, which we have not indicated on the model, and that is the channel of direct dialogue on the part of the researcher with the appropriate author. In effect, quite an elaborate communication system of this nature does exist, nourished by the national and international proliferation of conferences, conventions, and congresses, but there are less formal ways in which the so-called *invisible college** is sustained.[17] Really the invisible college deserves an entire model all to itself, but for our purposes it is sufficient to note that it exists and to represent it on our model, if we so desire, by means of a simple direct line of communication from author to reader. We may also note in passing that the graduate student who often most desperately needs the facilities of the invisible college is not privy to the system. There was a cartoon in the *New*

**The* invisible college *is the name given to the nucleus of prestigious researchers in a subfield of science who keep each other informed about new results and new activities.*

Yorker a few years ago depicting two men in conversation at a cocktail party being approached by a third, younger man. The caption read: "If you don't have a Ph.D.—scram!"

In the research situation the central ongoing problems of academic librarianship finally resolve into three fundamental questions: (1) how best to develop services to the library user so that the bibliographical research process is facilitated; (2) how best to develop the library system or systems; and (3) how best to develop the collections in the store. From a further study of the model it is possible to suggest some ways in which solutions to these problems might be sought. Bear in mind that the lines of communication run horizontally through the system and in effect may be isolated one from another in broad divisions by fields or disciplines.

In the first place, since the library is only a secondary system but the library users are attempting to communicate by means of the total system, the academic librarian should emerge from library school with a thorough understanding of the whole communication system and the relationships between its components, not merely of the library subsystem. By way of an aside here I would like to suggest that the study of this total communication system should be the scholarly discipline which underlies academic librarianship. On other occasions I have used the term *bibliography* as the appropriate name for this discipline. Something like it was proposed almost twenty years ago when Egan and Shera called for the creation of a much broader new discipline which would "provide a framework for the effective investigation of the whole complex problem of the intellectual processes of society." They proposed to call the discipline *social epistemology,* and its focus would be the "analysis of the production, distribution, and utilization of intellectual products. . . . Graphic communication provides objective evidence of the process." *Social epistemology* appears to be broader in scope than *bibliography* in our model and clearly has failed to catch the imagination or indeed many adherents, possibly because it is too broad. *Bibliography* is already a word overburdened with several different meanings. A new discipline deserves a new name, and I would like to put forward the claims of *catenics,* which is derived from *catena,* the Latin word for a chain; all the good words in the classical Greek lexicon seem to have been misappropriated by others before me.

Since the bibliographical research process is only one aspect of the total research process, librarians should have a thorough grasp of the total research process and research problems if they are to operate in the bibliographical research process with optimum efficiency in the fields with which they are concerned. No one individual is endowed with the span of mental aptitudes, nor can one expect an individual to acquire the kind of specialized knowledge required to function effectively in all fields. As a profession we have fostered the notion of librarianship as the last stronghold of the true Renaissance man. The time has surely come when we have to abandon this concept, restructure professional education, and prepare academic librarians to function in the research process as specialists in a particular branch of knowledge.

Once librarians have mastered the principles and methodology of bibliographical research for themselves and acquired a full understanding of the operation of the bibliographical system, they can play a very important role in the academic program of the university by teaching the skills of bibliographical research not only to research students, but also to undergraduates, who increasingly are demanding to be allowed to do their "own thing." The undergraduate's "own thing" is often outside the ambit of

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his professor, and he approaches the library system exhibiting many of the same characteristics of the researcher at the graduate level. If this phenomenon persists and grows, as I personally think it will, I feel that the rationale underlying the separate undergraduate library and, indeed, our whole concept of reference service will need a thoroughgoing reappraisal.

We have already noted the existence of the invisible college. Don Swanson has deplored the fact that "the implications of the existence of such groups seem, however, to be ignored in most visions of future information services."[18] It should be pointed out that the librarian who is a subject specialist not only knows the identity of some of the members of the appropriate invisible colleges in his field, but he can be an important and useful "fringe man" in the invisible colleges where problems of bibliography and documentation loom large. Rarely a "full member" himself, nevertheless the librarian can occasionally gain access to some of the college's privileges and benefits on behalf of a struggling doctoral candidate.

If we could represent our model in three dimensions instead of only two, we could more effectively demonstrate the relationships between separate library systems. As it is, we have tried to make our library box do double duty by representing both *the* library (in other words, all university libraries) and a particular library. The additional lines around the library box in figure 4a are not intended to make a square into a cube, but to represent an effort to convey the idea that the library box on the diagram is only the nearest one out of several thousands of library systems ranked parallel to the one on our model and stretching not only across the nation, but across most of the world.

One of the ways in which librarians can enhance their services to library users is by breaking down, softening, or penetrating the vertical barriers which separate one library system from another. From the point of view of the library user when we introduce him into another library system we are proliferating the number of channels. Undesirable though this is in one way, in another way we are creating a range of potential *open* channels when the one first approached turns out to be not a channel but a *cul de sac*.

The prevailing system of interlibrary loan is the most elementary example of the way in which one library system may penetrate another, and its speed and efficiency have been greatly enhanced by the creation and publication of union catalogues and more recently by the use of TWX—a modern technique designed to facilitate the sending of messages. So far we have used this technique to send brief messages requesting books and periodicals. The time will surely come when we use a much more sophisticated piece of apparatus like TWX to transmit the actual messages contained in the books and periodicals.

But interlibrary loan which relies on the chance possession of a particular book or document by another library system is a somewhat negative approach to the problem of facilitating research. One of the most significant developments in academic librarianship over recent years has been the much more dynamic role which organizations like the Center for Research Libraries and other similar consortia are playing in developing and rationalizing not only their collections, but their level of service too. Edwin E. Olson of the Maryland School of Library and Information Service is currently engaged in a major study of over one hundred library consortia which have been organized during the last twenty to thirty years by both public and academic libraries. Olson's study will attempt to identify the factors involved in the achievement of the goals of consortia

and other kinds of library aggregates. The result of his study should, hopefully, facilitate greater cooperation between existing library systems and the creation of new cooperative ventures.

The academic library profession has certainly become much more conscious of the fact that positive library service in addition to simple interlibrary lending is increasingly being sought by library users. The recently established office of Inter-Institutional Librarian at Indiana University, designed to facilitate cooperation among the four Indiana state universities, is a noteworthy example of this kind of awareness.

Academic librarians in general have been both innovative and ingenious in developing new systems to bridge the communication gaps between separate library systems, and services to the library user have thereby been considerably upgraded and enhanced. But library administrators have been slower to apply the same kind of innovativeness to the internal structure of the individual systems. The impediments to change are of course enormous, and the innate conservatism of our profession is not the only determining factor. The internal organization of most university libraries is unconsciously predicated on the bibliographical process rather than the research process, and attempts to overcome this deficiency have resulted in additions and adjustments to the system rather than radical changes. The only major university library that I know of which has made a serious attempt to restructure its internal organization so that the lines of administrative cleavage run parallel to, instead of perpendicular to, the flow line of communication, is that of the University of Nebraska, which is organized on divisional lines based on broad subject fields.[19] Of the university libraries which have deliberately augmented their systems to facilitate the research process, Indiana's scheme of subject and area specialists, as I have stated on another occasion, has a great deal to recommend it. It ensures positive feedback from the reference process directly to the selection process. The same effect, of course, occurs in branch libraries too.

In those library systems which lack subject specialists in the social sciences and the humanities, the scientific disciplines and the professional schools of medicine, dentistry, and law, which traditionally possess separate library subsystems, may well be better served than the former, which usually share the collections and the services of the university's centralized library system. The overlapping inherent in the literature of these fields acts as a powerful impetus to centralization. University library systems over the past few decades have been typified by a tendency to centralize services and to decentralize the collections, the physical location and grouping of books and journals being perceived as a kind of service. A consideration of the model suggests to me that we have to give very serious attention to the factors which are involved and which should determine under what conditions we should decentralize services and the collections or decentralize services and centralize the collections. Here we could profit a great deal from research which would yield some statistical data.

It remains only for me to say something about collection development in the light of the model. I have already touched ever so lightly on this area, and it should by this point have become clear that I perceive the library as a cybernetic system in which the collections in the system should be developed in response to feedback which arises at the interface between the reader and the reference process in the library. A selection process which takes place outside the system takes place without benefit of feedback and is therefore, in terms of the model, bound to be inferior to

selection which takes place inside the system. I was rather gratified to come across an article in the issue of *Library Quarterly* for July, 1970, which provides some empirical data in support of this contention. The author of the article evaluated book selection and book collection usage in five different universities and found that:

> there is a real (statistically significant) difference in pattern of use of current-imprint English-language monographs. The differences exist in the order predicted; that is, librarians selected more titles that were used than did faculty members or book-jobbers, and faculty members selected more titles that were used than did book-jobbers.[20]

I do not wish to suggest that the use factor is the only or even the most important criterion, but the general principle is still valid.

The model also suggests to me that in building a potential research collection in a subject field, we have to pay attention to all the genre represented by the physical forms delineated on the model. In other words, we will not have a real research collection which utilizes the full spectrum of genres or forms in, for example, one of the social sciences if we only develop a collection of books and periodicals, say, and neglect the pamphlets and the government publications.

Finally, in focussing on the process of book selection, I wish that my mathematical abilities were of a higher order, for I have a strong suspicion that a great deal of book selection theory could be rendered into mathematical or statistical models. Such models would be enormously useful in budgeting for collection development and for projecting future costs. They would also enable us to determine those areas of overall collection development which are currently being covered by individual libraries and which could best be covered by cooperative or consortia kinds of arrangements. The model also suggests, I think, that all messages contained in all documentary sources are potentially of significance to the researcher. The identical concept is expressed in that law of library science which finds expression in the popular phrase first enunciated by my archival colleagues: "The junk of today is the research material of tomorrow!" The final task of academic librarians will be to ensure, through the development of library networks and much more sophisticated schemes of cooperation than we have at present, that that "junk" will be available to the researcher when called for in the future.

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Footnotes

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2. Jurgen Ruesch, "Values, Communication, and Culture: an Introduction," in Jurgen Ruesch and Gregory Bateson, *Communication: the Social Matrix of Psychiatry* (New York: Norton, 1968), p. 6.

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4. Enders A. Robinson, "Model Building for the Human Sciences," in *Entretiens de Monaco en Sciences Humaines, Session 1964: La technique des modeles dans les sciences humaines* (Monaco: Union Européenne d'Editions, 1966), p. 125.

5. Herman A. O. Wold, "Introductory," in *Entretiens de Monaco,* p. xi.

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7. Wold, p. xii.

8. Ross, pp. 5-8.

9. Ruesch and Bateson, "Individual, Group, and Culture: a Review of the Theory of Human Communication," in *Communication,* pp. 275-86.

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11. Warren Weaver, "Recent Contributions to the Mathematical Theory of Communication," in Claude E. Shannon and Warren Weaver, *The Mathematical Theory of Communication* (Urbana: University of Illinois Press, 1964), p. 7.

12. Ibid., p. 8.

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14. Margaret E. Egan and Jesse H. Shera, "Foundations of a Theory of Bibliography," *Library Quarterly* 22, no. 2 (1952): 125.

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16. Norbert Wiener, *The Human Use of Human Beings: Cybernetics and Society* (New York: Avon Books, 1967), p. 79.

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18. Don R. Swanson, "On Improving Communication Among Scientists," *Bulletin of the Atomic Scientists* 22 (1966): 10.

19. Frank A. Lundy et al., "The Dual Assignment: Cataloging and Reference: a Four-Year Review of Cataloging in the Divisional Plan," *Library Resources and Technical Services* 3 (1959): 167-88.

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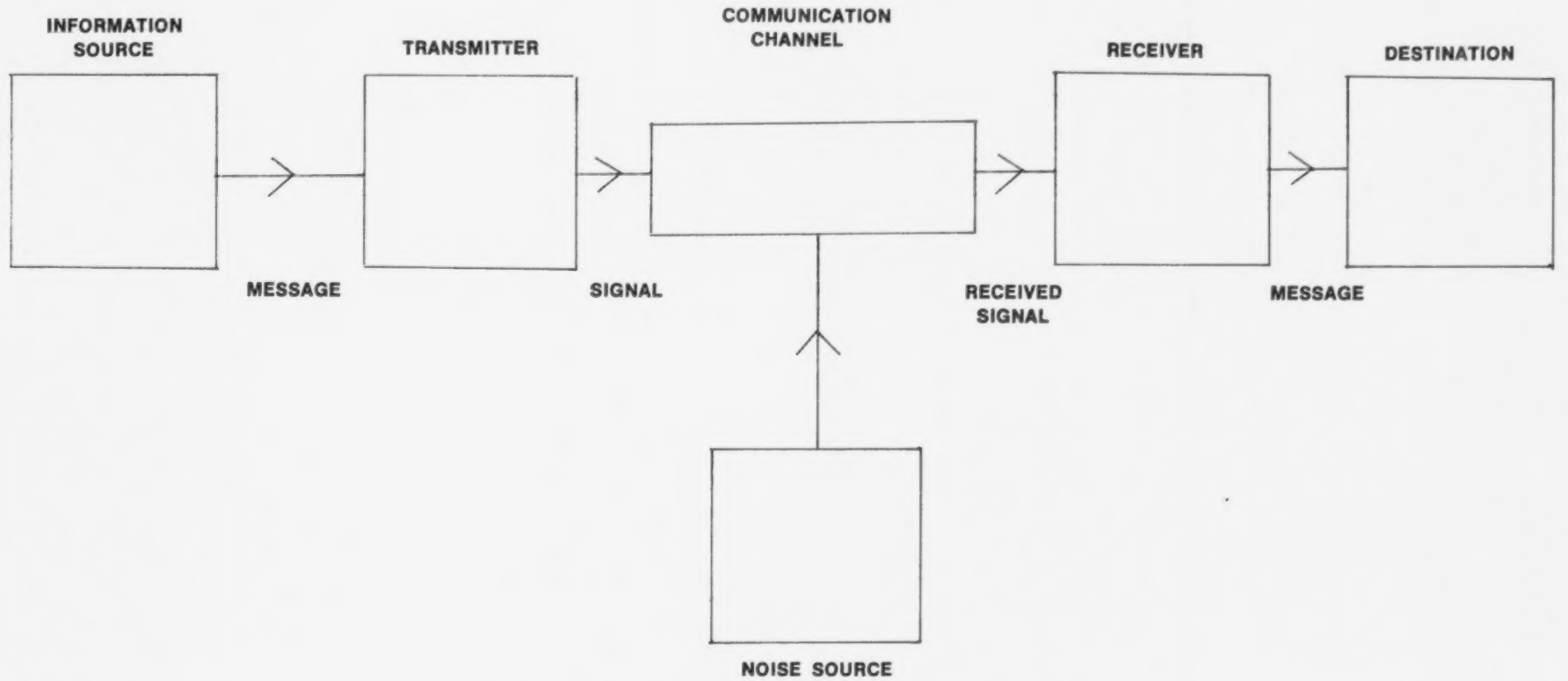

Figure 1 Shannon and Weaver Model of a Simple Communication System

Claude E. Shannon and Warren Weaver, *The Mathematical Theory of Communication* (Urbana: University of Illinois Press, 1964), p. 7.

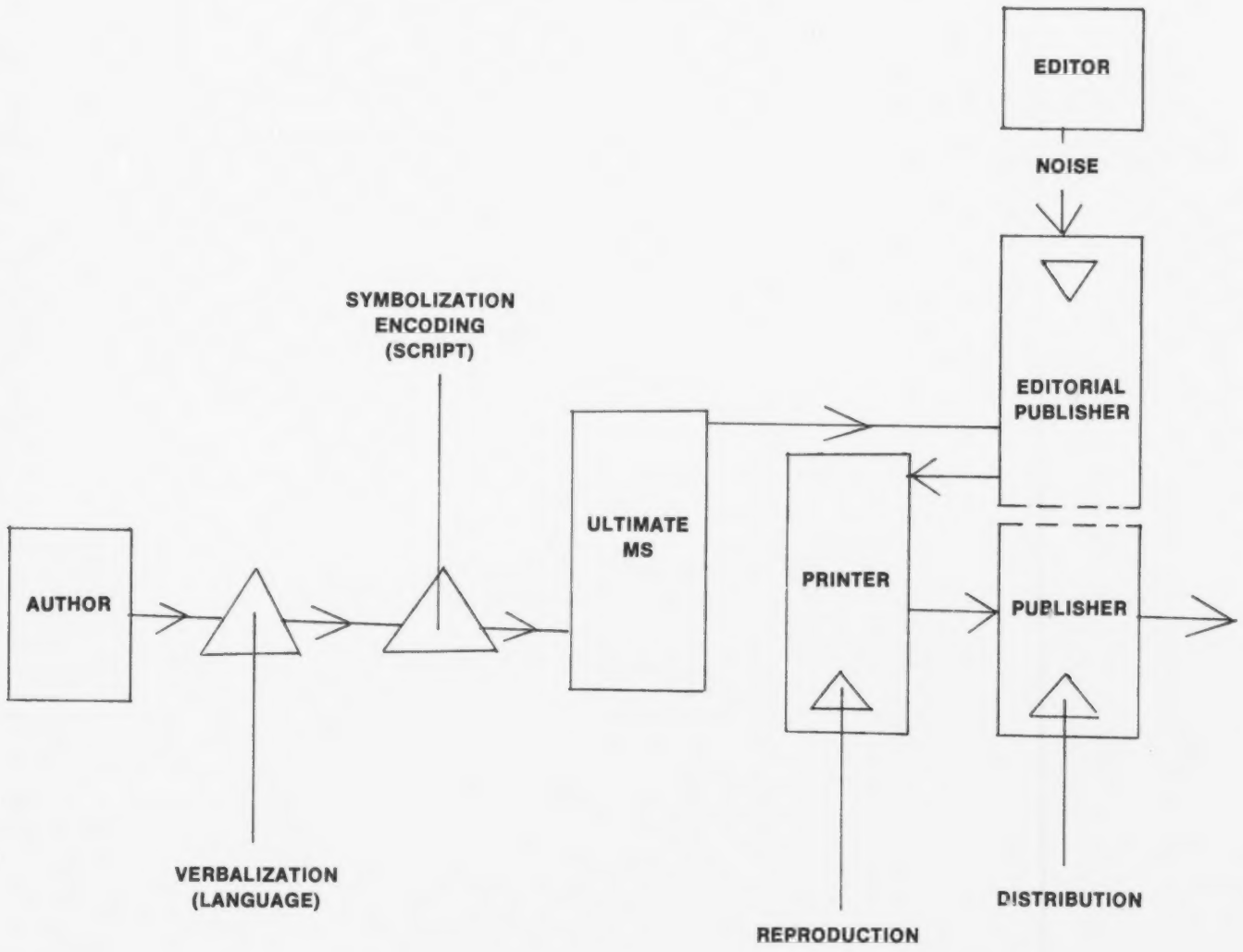

Figure 2 Primary Communication System Between Authors and Reader: Initial Stages

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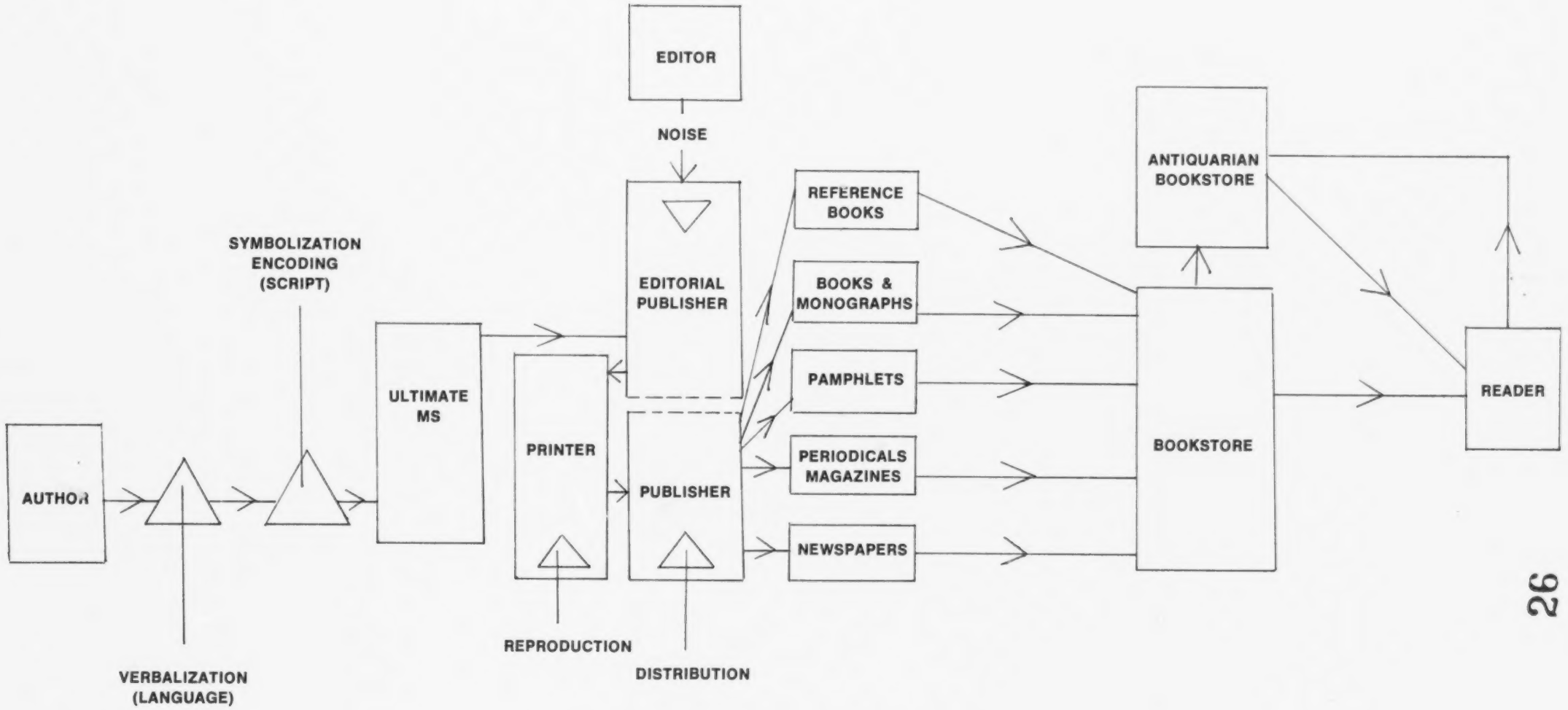

Figure 3 Primary Communication System Between Authors and Reader

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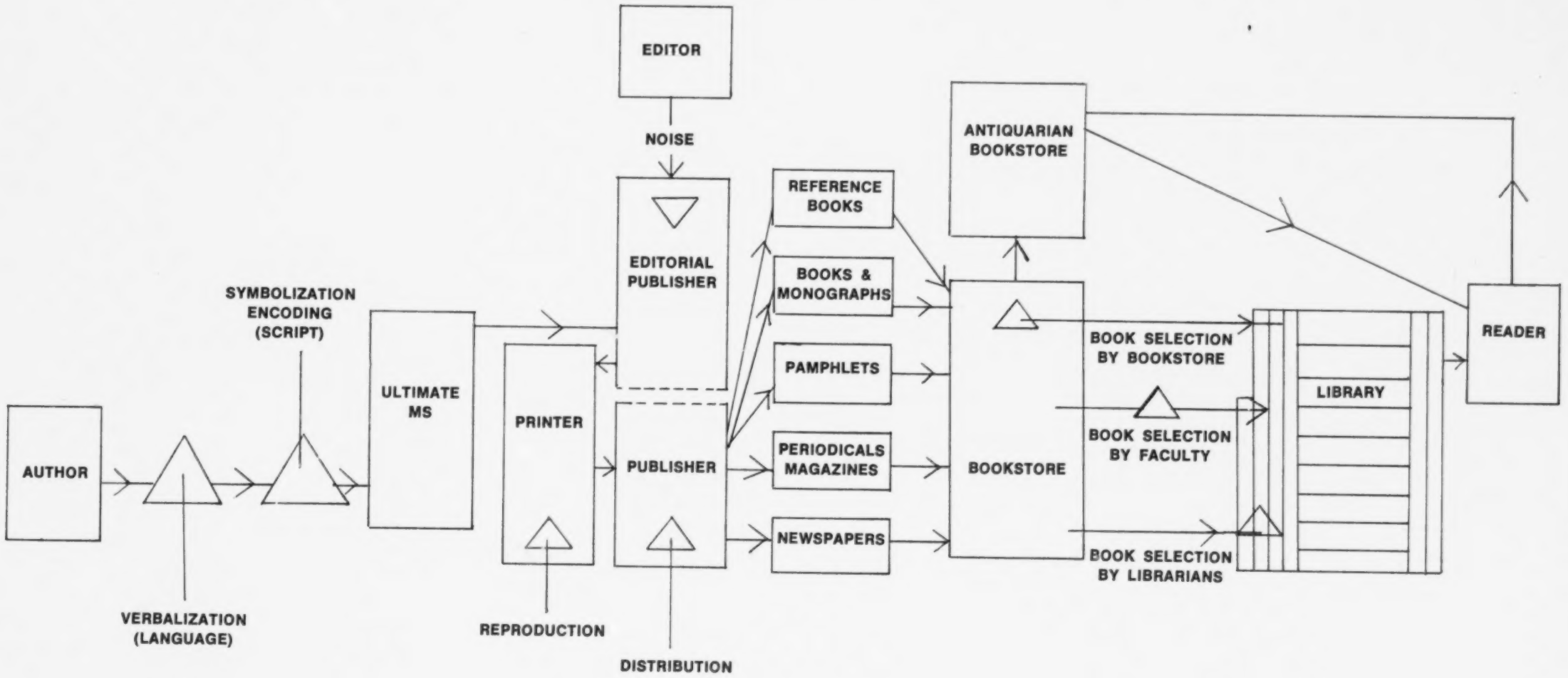
Figure 4 Communication System Between Authors and Reader



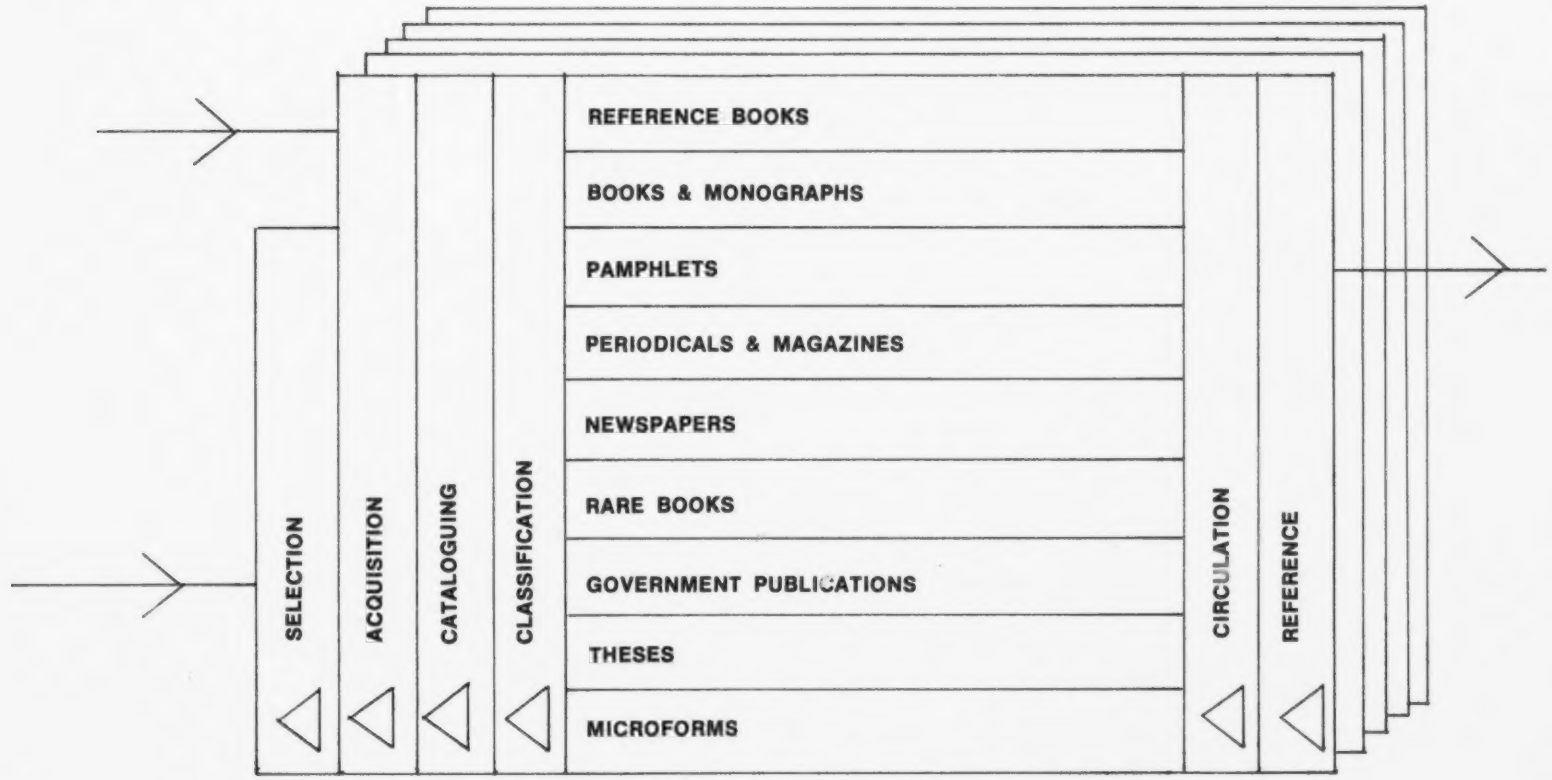


Figure 4a Detail of Academic Subsystem from Figure 4

Views and Reviews

by EDWIN H. CADY

Though I feel authorized by some of Mr. Taylor's remarks, as we shall see, to certain observations, I do not feel competent to deal with his models, those magnificent heurisms. I feel lost—in admiration, I must hasten to add. 29

Instead I feel most adequate to the general occasion in celebrating some of the history behind the creation of Indiana University's new Library and, encouraged by Mr. Taylor, in glancing at two main topics which remain vitally present: (1) at what might rashly be called the sociology of the university library; (2) at certain urgent problems of institutional definition.

Celebration is the nicest part: of victory and heroes I sing. Those of you who have read the elegant redaction in the current *Library News Letter* know that for generations the history of our libraries was hard, poverty-stricken, and too frequently catastrophic. For every practical purpose the whole story rests there within a sentence on page three: "In 1940, 434,000 catalogued volumes were reported; today, the libraries have an estimated 2,700,000 volumes."

Most of the men who participated centrally in that academic miracle are alive, and many of them are present. To some of us fell the privilege of shipping out on a climactic voyage, the final quest for the indispensable Library. There is a point there which I heard definitely put by President Stahr. The first time I waited upon him in his office (intending to discuss an entirely different problem), he spent an hour asking pointed questions and concluded in a tone of almost indignant commitment: "I thought," he said, "a first-class University *had* a first-class Library!" In effect he was enlisting with an Argosy already launched.

President Herman B Wells, with that exquisite sense of timing which has so often seemed uncanny, had already dispatched what turned out to be a lucky crew in quest of that Golden Fleece—"a first-class Library"—which had long eluded us. I wish briefly to celebrate to you some of the heroes. More like Columbus than Jason, we had what might be said to be three ships. Their names—and now goodbye to metaphor—were Administration, Librarians, and Faculty. In the administration, under the presiding geniuses of the Presidents—Wells, Stahr, Sutton—the key men were the successive, the sympathetic and outstandingly competent Deans of the Faculty: Ralph Collins, Lynne Merritt, Ray Heffner, Joseph Sutton,

Byrum Carter, Joseph Hartley. The librarians, who worked ideally together, were Robert A. Miller, who gave almost full time to the quest after the fall of 1962, and Cecil Byrd, who did three men's work to mind the store so Dr. Miller could be free.

In the crucial years the faculty were, successively, the Library Review and Planning Committee and the Faculty Library Committee. But the LRPC of 1962-63 and 1963-64 were the men! They met weekly for many months and did their homework in between. They accepted from Dr. Miller and pursued an extraordinarily systematic and faithful education in the nature, functions, techniques, goals, needs, and futures of libraries in general and I.U.'s Library in particular. From the qualities of weathering limestone to gleams in the eyes of experimenters with information control, from the idiosyncrasies of student labor to the projected demography of Indiana, from traffic patterns to administrative tables of organization, they left nothing unconsidered.

In their review function the LRPC members helped establish the grounds of understanding and adjustment which made it possible for a Library once close to breakdown in morale and service to cope with enrollments which practically doubled between 1962 and 1968 while book holdings expanded from 1.6 million volumes to 2.3 million. At the same time the Library continuously upgraded the professional quality and organizational effectiveness of its staff in preparation for the move to a new building.

In its planning function the LRPC helped convince the University community at large that we could (and must) have the Library, that it was worth the penalties and the risks, and that we must pay the price (as we still do) in the sacrifice of alternative advantages.

The essential decisions were taken by the Faculty Council, the administration, and the Board of Trustees. Not incidentally, I must pause to acknowledge with deep gratitude the generosity of those members of the community, particularly our scientific community, who chose to sacrifice real and vital advantages in favor of what, all painfully, they saw to be the general good.

Much of the history of the LRPC stands in its reports and in the program from which the Library was designed. Of its work on the program one can only say that since the building became operative there have appeared no nasty surprises: it works.

Personally, in retrospect I find myself valuing not so much the several moments of high drama as the often keenly insightful contributions made by individuals. As with almost everything else around here, at the center lay the wizardry of Wells. He appointed the LRPC; he saved the site at Tenth and Jordan; *somebody* had the architects go to work at what must have been almost the same moment as the LRPC; *somebody* guessed that just in those years, as never before and certainly not now or in the foreseeable future, we could squeak out the money—did he know that John Ashton would be administering some of the federal program at just the time we would be applying? If so, he saw mighty far ahead: but just how lucky can you be? *We* can answer only for ourselves. Also there were, at critical points, the devotion to excellence, the flashing comprehension, and the courage so characteristic of Elvis Stahr. And then there was a new President, Joe Sutton, who as Dean of Faculties had already mastered the price (and the means of meeting it) of "a first-class Library." He knew how to keep the faith, and he kept it.

Because it was unique, and because there will never be another chance, I wish briefly to name the key LRPC members and, though really everybody contributed to everything, their characteristic functions. During those years a mocking couplet often echoed in my thoughts: "In all your parks, in all your cities/There are no statues to Committees." This is my little monument to the LRPC. The people were an education in themselves. Imagine what it did to the parochialism of an English professor to discover that two of the best humanists were the chemist and the man from Business. If anything generalized the group, it was strong interdisciplinary concern. Taken alphabetically, here is the roster:

1. Robert W. Campbell, economist and Slavist, he has since become Director of the Russian and East European Institute. Exact, tough-minded, skeptical, challenging, he had to be shown; once shown, however, he became an able advocate, a most effective writer.
2. Quentin M. Hope, linguist, critic, internationalist, has since become Chairman of French and Italian. A scholar with broad research experience, he brought us a firm common sense, grounding discussion in the right usefulness of things.
3. John Prior Lewis, already an economist of international rank, left Indiana to advise India and is now Dean of Princeton's Woodrow Wilson School of Public Affairs. With an almost instantaneous power to cut through confusions, he insisted on first-class standards of quality. I like to see the fire-engine red book trucks which stand at the ends of stacks where browsers are asked to put books instead of misplacing them on shelves: they are John's solution to a weary puzzle.
4. Charles Leonard Lundin, historian both of the United States and the Baltic, linguist, he emerged as our apostle of clean, modern, distinguished architectural design: and the beauty of the building remembers him.
5. Lynne L. Merritt, chemist and designer, also served the Library well as Acting Dean of Faculties. Now Vice-President and Dean for Research and Advanced Studies, he was early a voice of understanding in high administrative councils. But on the LRPC he was always at once the spokesman for a factual sense of reality and proportion and a prophet urging us to consider the promises of the nascent information sciences. Certain open simplicities and flexibilities of design, making for ease in future adaptation, reflect Lynne Merritt.
6. Delbert C. Miller, an urban sociologist, above all else kept attention focussed on the people who were going to live for long periods while they worked in the Library. The ease and effectiveness of traffic patterns show his influence: he even got the towers turned around because reorientation would make things easier for the students.

Thus we moved from metaphors in the instructed imaginations of professors, and the great building came to clothe dreams in stone and steel. But really, of course, the Library became what it had to be, the expression of a community of which the LRPC members were consciously surrogates. And that brings me to report to you briefly on a very live and present problem deeply involved in Mr. Taylor's helpful models. With due apologies to Professor Olsen, I think of it as the problem of the sociology of the university library. Both structurally and functionally, of course, the library constitutes an institution which looms, sometimes formidably, within the institution of the university (and so on and so forth like nested Russian

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Easter eggs both outward and inward; but it is on the relations of the one lesser to the one greater institution that I wish to focus). Structurally, the relations of the library, and libraries, to other units of the university can become complicated, and I am aware that there remain problems not likely to be satisfactorily solved tomorrow.

But the functional relationships of the library as institution to its clienteles strike me as still more obscure, difficult, and fateful. The most urgent problems obviously concern relations between the library and its largest, most important clientele—the students, with their various bodies of need or interest. I think it is fair to say that the library administrators and the LRPC found a number of ways in staff recruitment, organization, and training, and in building design both operative and esthetic, to make the Library more attractive, even enticing, and satisfactory to students. It is not accidental that the library cafeteria has become one of the most popular meeting places on campus, nor, that within a month after the building was opened, my class of freshmen complained that you couldn't get a seat in the tower housing the Undergraduate Library.

With the facilities of that tower, incidentally, there have been provided means of revolutionizing certain kinds of instruction. There can never again be excuse for the antique "cookbook" course. If those past two sentences suggest that I fear the dangers inherent in the sociology of the library lie with its faculty constituency, the suggestion is accurate. Until I got used to the situation, as the chairman of committees seeking to ascertain and profit from faculty information and attitudes in order to improve library service, I learned to be shocked, sometimes horrified, by certain faculty postures. By merely quoting from some of my mail during the period, I think I could rather horrify some members of this audience.

But it is much better, I think, to state positively some propositions which I think it essential for every professor to keep brightly in view. The library is a service facility. Its functions are to acquire, to store, and to make available physically, bibliographically, even personally, the books essential to the educational and research missions of the faculty. It will be able to ascertain its functions and perform them well, largely in proportion to the actual, active, participatory good will of the faculty. As functions proliferate, as the almost intolerable pressures of growth mount, as concepts of mission and mode change together with intellectual styles, only active faculty good will can prevent the library as institution from falling into chaos. Perhaps more to the point, only in proportion as that goodwill supports and enlightens the library can that institution meet the demands which must be put upon it if a faculty is in truth to be a good one.

And that leads me to a final observation. In terms very like those of Mr. Taylor's paper, the library is in fact a model, a sensitive microcosm reflecting the university at large. It astonished me, for instance, to discover that the University coal pile over by the power plant keeps in step with the book fund. In a summer when the budget is easy, coal is stocked against the winter to come, the pile fattens, and supplements can be found for the always ravenous book fund. In lean summers they languish together.

During the years while we planned the Library, however, everything grew and grew until it seemed that either the balloon must burst or the source run out of wind. At the Library the numbers went up and up. Books, patrons, services, personnel, and budgets swelled until projecting the curves brought us to the not numerically unimaginable date when the whole gross product of the state would be needed to fund a Library where

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everybody in Indiana worked. Those rates of growth merely matched those of students, faculty, and curricula in the University. Obviously it had to slow down and will someday approach a relative stop. And that will bring us in the Library, to say nothing of other considerations, to a hard question. Who will decide what is to stop, what is to go?

In the Library and insofar as the Library serves, perhaps, for a model beyond it, that question has come to trouble me. Somebody is going to get hurt. In the Library we have long since given up the omnicompetent university, and I'm not sure the multiversity was ever actualized. You just can't buy all the books. In Mr. Taylor's word, you can't keep or acquire all "the junk." But one prof's "junk" is another prof's field. We can't and shouldn't have professors of everything. On the supposition that we shall have to cut back some things to give light and air and nutriment to others, somebody is going to get hurt.

And I think the faculty must prepare itself to take a rational, informed, professional, responsible, indispensable part in making such decisions in proper concert with administrators, trustees, and others. I suggest that individual professors might as well begin to practice for that role right now by assuming their functions in proper support of the Library.

In all this, mood and posture are probably more important than anything else today. And I find myself drawn to a quotation from a favorite philosopher, William James. We did get our Library; we can meet the next challenge. Thus James:

> So far as a man stands for anything, and is productive or originative at all, his entire vital function may be said to have to deal with maybes. Not a victory is gained, not a deed of faithfulness or courage is done, except upon a maybe; not a service, not a sally of generosity, not a scientific exploration or experiment or textbook, that may not be a mistake. It is only by risking our persons from one hour to another that we live at all. And often enough our faith beforehand in an uncertified result is the only thing that makes the result come true.

It was long and often very dubious before we got our Library—but we got it:

> This truth's established and borne out
> Though circumstanced by dark and doubt
> Though by a world of doubt surrounded

as Robert Frost said. We have it because as a University, a community at large, we believed a great beauty of usefulness into being. We shall keep it only by continuing to believe.

Edwin H. Cady is Consultant to the President on Athletics and Library Affairs and Rudy Professor of English, Indiana University.

Comments on "A Model of Academic Library Service"

by STEPHEN A. McCARTHY

I welcome the opportunity to discuss Mr. Taylor's presentation of his model of academic library service. I believe that we are indebted to Mr. Taylor for this application of the modeling concept to the university library and its services. Even though we may have some questions about it, I believe we would all agree that it helps us to a better or a different kind of understanding of the university library and its operations. Since one cannot know too much about the university library, any analysis which increases our understanding is most welcome.

My comments focus on several inferences which Mr. Taylor makes as a result of developing his model. My purpose in drawing attention to these points is to suggest that it would be desirable, in my opinion, to develop the model further in the light of changes which have occurred or may be expected to occur in the course of the next few years.

Development and study of his model lead Mr. Taylor to note with approval the divisional plan as exemplified at the University of Nebraska and as described by Director Frank Lundy in a 1959 article entitled, "The Dual Assignment: Cataloging and Reference." Indiana's use of subject and area specialists is also approved as an addition to its system which facilitates the research process. While the emphasis in the Nebraska article is on combining cataloging and reference, the advantage of the practice at Indiana is considered to be in the feedback from reference to book selection.

Mr. Taylor regards the Nebraska divisional plan as exemplifying an internal library organization that parallels the flow of communication, whereas the traditional organization of the university library is perpendicular to the communications process. Thus by implication the divisional plan aids communication; the traditional plan impedes it. The use of subject specialists as an adjunct of the traditional organization for selection, bibliographic and reference services, reduces the degree of obstruction but does not eliminate it.

I suggest that this analysis includes an inference which is open to question, to examination. The inference is, I believe, that unless a librarian has selected and catalogued a book, he will not "know" the book and thus will not be able to recommend it or make it available to a researcher. In terms of a given book this seems to me absurd; I think it may be equally fallacious when applied to a collection in a subject field.

Feedback from reference and bibliographic services may go to the formulation of selection policy and to its extension and refinement, just as well as to the selection of individual titles. Moreover, the researcher envisioned as confronting the terrible communications maze between himself and the authors who will respond to his needs is apparently a rather naïve beginner. The appropriate weight to be accorded feedback under these circumstances might be difficult to determine.

If one infers the contrary to Mr. Taylor, namely that a subject reference specialist can "learn" and "know" a collection even though he has not selected and catalogued the individual books, that he can use effectively and assist others in using the collection, and that he can guide the development of the collection by drafting and refining acquisition policy statements and instructions to jobbers because he knows its contents and the principal lines of study and research, it seems to me that a model of a somewhat different configuration might result.

Although I have no quarrel with the divisional plan in its various manifestations and I am convinced that university libraries need far more subject and area specialists than they now have, I suggest that events may be moving faster than Mr. Taylor's model, or that the model could do with further projections.

I do disagree with Mr. Taylor's view that the division of the library system into the technical services and public or readers' services is harmful. I regard it as beneficial because it has expedited collection development and organization. In so doing it has, in my opinion, been an important element in the improvement of services to readers.

Consider, if you will, Frank Lundy's latest piece on the Nebraska divisional plan, published this summer.[1] Nebraska's book selection is now largely done by book jobbers, and Library of Congress catalog cards for 70 percent of its acquisitions are supplied from the same source. The divisional librarians have become subject specialist reference librarians. The reason for the change was the need to acquire and catalog promptly and economically a greatly increased volume of material. One may regard this as a loss and regret it; or one may regard it as an opportunity for improved services.

The use of book jobbers and blanket orders, instead of individual title selection, has spread widely in recent years. It has its critics and its protagonists. There is no doubt that the various systems and plans need improvement and refinement. At the same time, it seems unlikely that large and active research libraries can ever return to the individual title selection process for a large part of their acquisitions.

In the field of cataloging and serial records several developments are going forward, all of them focussed on standardized records, all of which will probably be produced centrally. I have in mind the National Program for Acquisitions and Cataloging, the MARC project, the standard book number, the MARC serials format, the standard serial number, and cataloging-in-publication, the new name of cataloging-in-source. Moreover, if libraries are further to "enhance their services to library users . . . by breaking down, softening, or penetrating the vertical barriers which separate one library system from another," the importance of standardized bibliographical records cannot be overemphasized.

I don't know what these developments do to Mr. Taylor's model. I hope that their existence and usefulness can be incorporated into a new version of the model which might serve as a guide to research libraries as they adapt their procedures, records, and services to take advantage of new

techniques. This model, it seems to me, might usefully be concerned with a situation in which the university library would devote less of its staff resources to selection, acquisition, serials, and cataloging, and instead would direct a major part of these staff resources to new and improved readers' services. In these new and strengthened services, subject specialists in far greater numbers would play a leading role. They would be bibliographic specialists, and their selection responsibilities would be at the policy level, their reference and bibliographic responsibilities at a truly professional level. A university library service conceived in these terms would be active, not passive; and a university library career envisioned in these terms would be a rewarding academic experience.

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Footnote

1. Frank A. Lundy, "The Divisional Plan Library at the University of Nebraska," *Mountain Plains Library Quarterly* 15, no. 2 (Summer 1970).

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Critique of Taylor Paper

by MARVIN E. OLSEN

I certainly do not stand here as a professional librarian, nor as a sociologist who does the bulk of his research in the library. I wish I could speak as a specialist in the use of systems models, but I can't claim that title either. I have used the system model at times and have found it useful, but I've not examined it thoroughly as an analytical tool. I have also been somewhat interested in mass communication theory, which is relevant here, but again this is not my major area of work. After expressing all these disclaimers, let me simply say, in a more positive vein, that in the next few minutes I will try to examine Mr. Taylor's model of the university library as an information system from the perspective of a sociologist concerned about organizational systems and communication.

First of all, by way of background, let me point out that if you perhaps felt a little bit bewildered by the diagrams in Mr. Taylor's paper, you needn't be. There is nothing particularly mysterious or, for that matter, particularly scientific about models. You are not doing research, really, when you draw or analyze models; rather, you're simply trying to pose meaningful questions. Models cannot provide new knowledge or answer questions since they contain only what is put into them when they are drawn. But a model can, if it's well constructed, serve as an immensely useful heuristic tool for helping us to visualize a problem, see relationships among its various parts that we may have missed before, generate crucial questions, and so on. A model is never valid or invalid, right or wrong, but only more or less useful as a tool. To what degree does it help us to explore a problem, raise questions about it, suggest plausible hypotheses, and generate further thinking?

I would suggest that the model sketched in Mr. Taylor's paper is, from my limited knowledge of libraries, quite useful up to a point. However, there is a point, I believe, at which its effectiveness ends. In a few moments I will attempt to identify that point and suggest where the model might proceed from there.

The telecommunications model of Shannon and Weaver with which Mr. Taylor begins his analysis is derived from, and designed for, their concern with one-way electronic communication—transmitting messages from a sender to a receiver. Given the kinds of situations they are describing, their model is perhaps not irrelevant. But I would suggest to you that any model of communication which provides only for one-way message sending

is seriously incomplete. It is, in fact, a rather serious distortion of reality since the total process of communication always involves two-way or reciprocal message sending. In short, a full communication system always involves first a message from sender to receiver and then feedback from receiver to sender so that the sender knows that the receiver has gotten the message. In fact, actual communication is usually much more complicated than this, with A sending a message to B, B acknowledging it back to A, A then letting B know that he knows that B knows his message, then B communicating back to A that he has received this message that A knows that B knows, and so on in a continual process. Full communication, then, always involves feedback to complete the cycle from receiver back to sender.

From this perspective, Mr. Taylor's second figure is depicting only one-way message sending, not full communication. But he doesn't intend this to be the final model, so let me just point out a couple of minor points about it and then move on. First, I can't resist jumping into the little debate that Professor Cady initiated as to whether or not editors are merely noisemakers in this system, since I am at the present time an editor of a sociology journal and spend many hours a week drawing blue lines through superfluous words that authors have written. I hope that I'm not just interfering with the communication process. At the same time, as an author who's had his manuscripts thoroughly marked up by editors, I can appreciate the author's contention that editors can be just noisemakers. Nevertheless, I will maintain that editing, if done well, is not extraneous to the communication process. In fact, it is an integral part of this process so that we perhaps should picture the editor as a related subsystem who exerts important influences on the communication system. We would then reserve the concept of noise for inputs that have only disruptive effects and are irrelevant to the communication. My second point would then be that we might view the reproducer, or publisher, in much the same light—not as noise, but in this case as a facilitator, acting as a catalyst to speed along the communication process.

Now let us turn to figure 3, which becomes a little more complicated. The various media that it introduces—reference works, books and monographs, pamphlets, periodicals, and newspapers—are technically message channels through which messages flow. I believe Mr. Taylor does use that term in the text of the paper, but he doesn't include it as a label in the model. The bookstores that he brings in at this point could then be described along with publishers as facilitators. They enter the communication process to help it along but presumably not to significantly change it. At the end of this model he might have put in one other little box; in physiological terms we might call it a brain, but in communicative terms it should be labeled the *decoding process,* for this is a crucial step between receiving an encoded message and understanding its meaning. The symbols representing the message being transmitted must be transformed back into ideas, and great distortion can enter the process at this point. Beyond these comments on the diagram, however, is my central point that the figure continues to represent only one-way message sending, not full communication.

Let us therefore go on to figure 4, representing the complete model, and figure 4a, showing the library as a partially autonomous subsystem of the overall communication system—or, more properly, a set of interlocked, interrelated subsystems. It vitally affects the communication process, but it also possesses its own activities, structures, and processes, which of course are the primary concerns of librarians. Even now, though,

I would maintain that we have an oversimplified picture of the total communication system since we're still thinking in terms of one-way message sending. Perhaps, regrettably, this is the way many librarians see their profession—as collectors, preservers, and carriers of one-way messages. To the extent that this is true, the model is depicting reality, but not full communication.

The unique contribution of Mr. Taylor's paper, I think, comes in the ensuing argument that this traditional conception of library services is not adequate and ought to be augmented. He does this by reminding us that the academic library is part of the larger university organization, which has the dual functions of generating new thinking and knowledge as well as preserving and transmitting existing knowledge. If the library is to serve the university adequately, it must also perform both these functions, which he calls the "research" and "bibliographic" functions. In other words, the library must build feedback into its activities so that it can provide a full communications process in a reciprocal cycle.

The paper does give some consideration to feedback when it discusses the research scholar or graduate student trying to make his way through the library "maze" back to relevant authors. Regrettably, arrows depicting this process were not drawn in the model. Much of the rest of the paper then deals with various suggestions about how libraries and librarians might better facilitate this "backward" flow of communication—by becoming more familiar with the total communication process (which Taylor labels *catenics*) and by reorganizing the library system in various ways: providing subject-matter specialists, developing interlibrary communication systems and consortia, decentralizing services, making administrative rearrangements, and initiating better book selection procedures. As graduate students—and increasingly, even undergraduates—attempt or are required to play the role of researcher "doing their own thing," increasing demands will be made on libraries in all these respects, as Mr. Taylor reminds us.

In all this discussion, however, the paper treats basically only one kind of feedback, which I call *indirect* feedback, since communication goes from author A to reader/researcher B, who then becomes an author himself. The total process is closed only if and when A reads what B has written. (A full communication system requires live authors as well as readers.) In many cases, however, this closure never occurs, and we remain on the level of one-way message sending.

There is, in addition, another kind of feedback, which I would call *direct*. In this case, reader/researcher B communicates directly with A, reacting to A's messages. This process is mentioned only briefly by Mr. Taylor when he speaks of going outside the library subsystem to communicate via the "informal college" of personal communications and professional meetings by which scholars keep each other informed of their work. The importance of direct feedback in contemporary printed communications lies in the fact that messages are increasingly becoming dynamic changing phenomena, not static entities as portrayed in this model. Books are not, of course, transformed overnight, but they do change through time. Reference works are periodically revised, books and monographs are rewritten in new editions, pamphlets are updated or superseded, magazines and newspaper articles are revised in subsequent issues, and so on.

My point here is that Mr. Taylor's paper does not ask how direct feedback from receiver B back to author A might be facilitated through the library itself, rather than being delegated to the "informal college" outside

the library. How can the library promote this kind of direct feedback so that as long as an author is still living and working he can continually modify his own messages? How can the library help to complete the total communication process? This activity is vital in relation to students, who are left out of the "informal college," but it is also increasingly important for scholars as academic fields become too large and minutely specialized for most individuals ever to communicate directly with one another.

Extensive developments in this area will very clearly depend on the use of all kinds of new and highly sophisticated technology, especially gigantic computers. Someday, I assume, we will store all knowledge, not on paper, but on magnetic tapes in computers. But we are not here to discuss technology today, so let me assume that these technological requirements can be met so that we have almost unlimited computer facilities. I shall then go on to suggest briefly a few ways in which, perhaps two hundred years in the future, a university library might act as a vital link in a total communication process.

My first suggestion might be called a *complete reference system.* For every publication the computer would list all other works that discussed, used, or modified the original work. I don't expect we'd want to go so far as to include in the reference system every footnote citation of every work published. But certainly every time a later work made any significant use of an earlier piece, we would add it to the reference list. When the original author wanted to revise his—whether it be tomorrow or ten years from now—he could go to the library, ask for a printout of the references to his original work, and immediately receive a complete listing. He could then take account of all these subsequent works in his revision.

My second idea I label a *commentary input system.* This procedure would be designed for readers of a work who wanted to comment on it to the author but who didn't want to write a formal, finished work on the topic. If we had large enough computer facilities, this reader could write a response of perhaps no more than 300 words and then put it into the computer for storage. It would remain stored there until the original author requested *commentary output,* at which time the computer would give him a complete printout of all these messages. Keep in mind that this system would operate not just in one library, but throughout the entire society, using a centralized computer system into which every local library would be connected. Then to complete the communication cycle the author could, if he wished, write out his own little responses to his critics, shove them back into the computer, and leave them for his readers. In this manner one could have a continual process of informal but direct communication going on within the library system.

My final suggestion goes even further and becomes even more radical since it does away entirely with the printed media and turns entirely to electronic communications. I call this an *information compiling system.* We might still have books sitting on shelves somewhere, but no one would physically handle them any more. The computer would scan all writings, separating each one into all its component ideas—what communication theorists call *bits*—and code each bit according to subject matter. All these bits from all writings would then be collated by topics and stored in a thoroughly cross-referenced filing system. Whereas the reference system I mentioned first would merely compile relevant references to written works, this information compiling system would deal directly with facts, ideas, research findings, theoretical arguments, and other "bits" of information. Whenever a user sought information about a particular topic, he would merely punch the appropriate code into the computer, and it would im-

mediately give him everything presently known on that topic, in condensed form. Authors, as well as readers, would thus be spared the tedious task of poring through pages and pages of irrelevant materials to find the information they specifically needed. At this stage of technological development we could have total and instantaneous communication among all authors and readers, in all directions.

All of these proposals are admittedly highly speculative and idealistic and won't exist for a long time to come, if ever. But my concern here is not so much with any particular schemes; rather it is to convey the basic point that with sufficient imagination librarians should be able to devise systems of communication, using computer technology as it becomes available, that would make possible reciprocal, direct feedback from readers to authors, thus completing the total communication process. Only as libraries move in this direction, I submit, will they adequately enable the university of which they are a part to carry out its full task of creating, as well as preserving and transmitting, knowledge. Let me therefore urge all of you as professional librarians to turn your attention not away from the bibliographic process, but simultaneously towards the research process, asking what you can do to facilitate the seeking of new knowledge in all fields.

Marvin E. Olsen is Director of the Institute for Social Research and Associate Professor of Sociology, Indiana University.

Library Dedication Speech—October 10, 1970

by JOSEPH R. HARTLEY

Chancellor Wells, distinguished guests, bibliophiles, fellow collectors, literati, ladies and gentlemen who love books and use them, I greet you with pride and pleasure tonight as Indiana University celebrates one of the greatest events in her one-year celebration of the Sesquicentennial of the University. Chancellor Wells, I want to give my special greetings to President Elvis Stahr. I think there is also a lady in our audience tonight who has come all the way from Australia to join us in our celebration. If Mrs. Lundy, Reference Librarian, University of Australia, is here tonight with her friend Mrs. Koontz from my hometown of Portland, I would like to have both of them stand. We thank you and welcome you to our celebration.

The mission of a great university is the preservation, creation, and communication of knowledge. If one contemplates that mission, it is obvious that central to the very heart of any university is its library. On the adequacy of that facility rests a university's reputation and the quality of her educational programs. On that also rests her capacity to attract excellent faculties, scholars of all types, and concerned, interested, and dedicated students. There is nothing else planned to commemorate our Sesquicentennial Year that exceeds in importance the dedication on this campus tomorrow of one of the finest university library buildings in existence. The citizens of Indiana have long taken pride in the first constitution of our state, which in 1816 affirmed that, and I will quote, "It shall be the duty of the General Assembly, as soon as circumstances will permit, to provide, by law, for a general system of education, ascending in a regular graduation from township schools to a State University . . ."

Many of you Hoosiers in the audience have heard that statement a number of times before. From that mandate, of course, Indiana University has her roots, starting in 1820. What you may not know is that a state university library was conceived even earlier by our frontier statesmen. For in 1807 the Indiana territorial legislature passed an act incorporating a university, and in that act they authorized a lottery to raise $20,000 for "the purpose of procuring a library and the necessary philosophical and experimental apparatus." To be historically honest, I must confess that it was the intention of that legislature at that time to develop this library at Vincennes. But the 1820 legislature transferred the site of the new state university to Bloomington.

Twenty thousand dollars was a lot of money in 1807 for a territorial legislature. For the legislators in our audience tonight, I want to emphasize that $20,000 is still a lot of money as viewed by an academic vice-president. Our first professor, Baynard Rush Hall, received an annual salary of $250. This helps to put in perspective the kind of commitment that this state was making even in 1807 when it talked about $20,000 for a library. Today Professor Hall would be paid something like $20,000, and we would probably lose him to the University of Illinois or to Michigan.

Please don't think that the original grant in 1807 was a bonanza; the lottery was never held. There are moments when we wonder if the librarians and faculty of I.U. don't still think that they are to receive that lottery with compound interest every year to develop our collections.

From our first year, 1820, when I.U. was founded, the Library grew slowly, almost imperceptibly for many years. But over the next century the University and the state responded to the obvious needs for the development of an excellent Library and library system. It is difficult for us today, as we are at the threshold of the dedication of such a marvelous structure, to put into perspective the desperate lack of books in Indiana in 1820. In the early years the President and the Trustees had the vital role in the continuing development of the Library. The first library collection of 1829—some 235 volumes—was assembled by President Andrew Wylie, who begged and borrowed them on a trip in the eastern states. To understand what this meant to this state at that time, one has only to reflect that in 1816, as the constitution was being drafted, a seven-year-old frontier lad crossed the Ohio River from Kentucky with his father and mother and located on Pigeon Creek in Buckhorn Valley, Spencer County. Abraham Lincoln developed a voracious appetite for books, and, as we all know, there were very few. In fact, as a teenager he said, "My best friend is a man who'll give me a book I ain't read." A friend of Lincoln's responded, "Abe, I'm your friend, but books ain't as plenty as wildcats in 'Indianny.'" Therefore, you can appreciate the struggle the University had in its early days to develop its library collection.

The first appropriation for library purchases was made by the Trustees in 1834; the first librarian was William R. Harding—a faculty member, appointed in 1837. The Board expected him to be on duty in the Library every Saturday to charge out and receive books, for each student was permitted to borrow one book, no more, per week, and that only on Saturday. The Trustees at that time regularly inspected the Library. In 1838 they were distressed to learn that a *Thesaurus* of thirty-four volumes had been purchased at the incredible cost of $300. The Trustees directed the librarian to sell that collection and to buy more history books. (The professors of history on all of our seven campuses have never forgotten that, and they continue to urge us to buy more history books.)

Another Wylie, Theophilus Adam Wylie, Professor of Natural Philosophy, was appointed librarian in 1841. He served in that position until 1879, and to this day his thirty-eight-year tenure is the longest of any director. I should point out, however, that Dr. Miller is approaching his thirtieth year of service with a somewhat more complex system of libraries to administer than had Mr. Wylie.

Another interesting change occurred during the later 1880's under the great administration of David Starr Jordan. (He unfortunately left I.U. to become Stanford University's first president.) The Library was a significant issue under Jordan's administration. He requested that the Board of Trustees give the librarian, Mr. Spangler, more authority and

responsibility. In response the Board drew up a set of library rules which specified that the librarian was in charge of the Library and that the janitor was to help him with the discipline of unruly students. The librarians here tonight from our various staffs may want to take note of that. Furthermore, only the President was to make any exceptions to the rules with respect to the circulation of books to students. I do not know how much time the President of that day devoted to making these exceptions. I doubt if President Wells and President Stahr spent much time making exceptions to circulation rules.

With responsibility for the Library clearly in his hands, Mr. Spangler started planning a new library facility under President Jordan. In January, 1891, Maxwell Hall was dedicated as Indiana University's first separate library building. I do not know what the dedication ceremony was like at that time, but I doubt if it was quite as exciting as the one that we're holding tonight and tomorrow.

When William Lowell Bryan became President right after the turn of the century, the estimated value of Maxwell Hall, the library building at that time, was $65,000, and the recorded number of volumes in the collection was 43,000. As you hear more about the Library tomorrow, remember that we started in the early twentieth century with a $65,000 structure. We have come a long way, and it has not been easy, but it has been exciting.

After World War II, under the energetic and all-encompassing leadership of President Wells, I.U. grew rapidly on all of her campuses. The GI's came back; the postwar years were expansionist years. The university had to meet the challenge of the great numbers of students who were seeking a university education. In this period collegiate education became popularized. The majority of young men and women wanted to have an opportunity to earn a university education. Obviously, one of the essential, in fact, most fundamental, tools necessary for that education was an excellent Library. Chancellor Wells has already commented about the development of the priority for a new library structure. Tremendous improvements also occurred in the quality of our library collections following World War II. There were 434,000 volumes in 1940; today our Library has grown to over 2,700,000 volumes. (This does not by any means represent all of the individual pieces in the entire collection.) Incidentally, you might be interested to know that we catalog materials in more than forty languages. Earlier mention was made of the charge to the President by the Trustees in the 1880's concerning his role in library matters. Today, President Sutton does not spend much time with collections, but since he speaks fluent Japanese, he is consulted occasionally concerning collections in Japanese.

I have been talking so far about our general collections. I want to emphasize that I.U. is not limited to one library or library facility, even though our attention at present is focussed on the new central building. Indiana University pioneered in the development of academic branch libraries. In the 1870's faculty members returning from study in Germany and other European nations asked to have separate library collections for the sciences and the professional programs. Law, zoology, botany, mathematics, geology, and chemistry had seminar or departmental libraries before 1900. Physics had its own library in 1902. In following years other branch libraries were established, including those in Indianapolis and elsewhere in the state. For a century I.U. has developed a system of libraries because our primary mission has been to take the books to the scholars, the

students, and the people—not to keep the books. We are grateful that our librarians are happier when the books are in circulation and being used than when they are in the stacks. This reminds me of a story of a man who had a fine personal library. He said he liked to visit his friends frequently so he could enjoy seeing his library.

Perhaps this is the proper moment to explain to our out-of-state visitors and guests that Indiana University is composed of a system of seven campuses—one in each of the following cities: Fort Wayne, Gary, Indianapolis, Bloomington, Jeffersonville, Kokomo, and South Bend—plus the Eastern Indiana Center at Earlham College in Richmond. We have campuses in virtually all of the urban centers of the state except Evansville. Of course, we have academic library collections developing at all of these campuses. The coordination of all of these libraries is supplied by President Sutton—subject, of course, to the policies of the Board of Trustees of the University.

Chancellor Wells mentioned in his introductory comments that there was a struggle to preserve the President's house and yet develop a library on the northeast edge of the Bloomington campus. It took vision to anticipate the development of the Bloomington campus. It has taken even more vision to anticipate the development of I.U. as a system of urban campuses and to insure that the entire library system serves the students and faculties of all those campuses. This concept of statewide service extends beyond our libraries. The University is also the purveyor of music and art, and of consultative services of all types to the various institutions of this state. You saw an example of this tonight in a performance by our splendid School of Music.

I do not know the exact investment in our library system. I do know that it's tremendous. It is in the tens of millions of dollars. Of course, it really isn't feasible to set precise values on unique books. For example, it would be extremely difficult to determine the real value of the marvelous Lilly rare books library collection. We do know that it is one of the finest rare book libraries in the nation. It is completely unrealistic to suppose that we could duplicate that collection on seven different campuses. Nor is it conceivable that the state of Indiana can ever afford to build facilities like the new central facility on all of the campuses of I.U. or on campuses of the other state universities. Nor is it conceivable that the collections developed over 150 years in our Library can be duplicated either financially or in fact. Therefore, we have a special mission, a special responsibility, to see that our collections are extended to the entire state of Indiana, indeed to the nation. I cannot emphasize this mission too strongly; in fact, when Dr. Sutton assumed the presidency, it was the subject of considerable discussion. Deliberations concerning the role and the organization of the Library in the new organization were started during President Stahr's administration. After further examination, President Sutton and the Board of Trustees agreed that the operation and development of the library system must remain central to the University. With that decision, the responsibility for the coordination of the Library was placed under the Vice-President and Dean for Academic Affairs. It is my primary responsibility to see that the library mission already discussed be discharged. At this point, I want to acknowledge the cooperation of the faculties and the professional librarians for their help in our efforts to accomplish our mission.

In short, we consider the collections of our central Library and our branch libraries as resources for our entire system of higher education and

as instructional and research reservoirs for the state of Indiana. In general, and subject only to the time necessary for communication and transportation, the resources of the central Library, which we are dedicating, are as accessible to the scholar at Fort Wayne, South Bend, New Albany, or any other campus, as they are to his counterpart on the Bloomington campus.

Because a major part of our operating funds come from this state, our university libraries are state libraries and as such are open and available to all citizens, in addition to their availability to the students and faculties of I.U. This means that the central Library has open admission to the stack floors and book collections. It is not restricted. The only time that you are asked for identification is when you charge out a library book. The Library has followed this practice for a number of years. In 1952, I was studying in the departmental Mathematics Library when past President William Lowe Bryan, who was ninety-two at that time, came into the Library and asked the young lady at the desk if he could have a copy of the cardinal and ordinal numbers. She seemed somewhat taken aback and asked him if he were a student! I have wondered ever since what he wanted with the cardinal and ordinal numbers. He obviously believed in the use of libraries because he was still using them actively at the age of ninety-two.

Let's very briefly explore some of the applications of new technology being used here to make our collections available to citizens and scholars throughout the state. Our Library has a TWX network communication; that's a teletype service. The twenty-two public libraries in the state, our three sister state universities, and the State Library in Indianapolis are all interconnected with this TWX system. This provides instantaneous communication, and we give first priority to lending requests from all libraries affiliated with the network. This system reflects considerable progress since 1898, when the newly appointed librarian, George Flavel Danforth, obtained the first typewriter for the Library. That acquisition was probably of sufficient moment to have been discussed with the President of the University.

With Purdue, Ball State, and Indiana State Universities, we have an even more direct, and mutually financed, arrangement. There is a library specialist on our staff (Purdue has a similar specialist) who expedites loan and photocopy requests from all the other institutions, especially from the state public universities. This is to insure that there is prompt reference service in addition to the supplying of cataloging information. This librarian has no other responsibility than to serve Purdue, Ball State, and Indiana State. We hope that in the future we can refine our system to the point that we can extend similar services to all of the other colleges and universities in Indiana. Indiana is blessed with an uncommonly rich resource in our private colleges—we have over thirty. Given the resources, we hope we can extend the above mentioned services and eventually provide immediate access to our collections to all the state institutions of higher education. The two special types of services just described are only part of our developing network of library and information service. The Aerospace Research Applications Center, established in 1962, provides literature searches from computer-stored data for industry, business, and scientists throughout the state, as well as for the research people on our own campus. There are terminals to our computer data banks, which are located in six different Indiana cities.

In conjunction with ARAC, our Chemistry Library—using data furnished by *Chemical Abstracts Condensates*—makes available, free of

charge, literature searches for our Chemistry and Medical School faculties and students. We hope to extend this service to the state at large.

In addition, our School of Medicine Library in Indianapolis, has, since 1966, distributed computer-produced lists of journals through TWX terminals to physicians throughout the state of Indiana. It is possible for physicians in 150 different Indiana communities to reach our Medical Library through TWX for bibliographical and material services. This past summer the Medical Library installed a terminal on-line with the New York Biomedical Communications Network, making it possible to secure within minutes book and journal citations from a store which lists the holdings of nine major medical libraries, including the National Library of Medicine in Washington.

With limited research and developmental funds at our disposal, Indiana University has not been able to experiment greatly with automated library procedures. Given sufficient time and resources for further experimentation, we do hope to see some dramatic new developments in this area over the next decade.

A fine example of intrastate cooperation is the state serials data bank. Sixty-four libraries in the state, including our own, are consolidating the descriptions of their journal holdings at Purdue University, where the ultimate computer store of titles and holdings can be printed out either as local catalogs or as master lists of serials held in all of the sixty-four libraries involved.

I should not fail to mention the successful five-year computer operation of the Regional Campus Libraries' processing department, which has automated the ordering, receiving, accounting, and cataloguing of all books added to the University's undergraduate libraries at the five regional campuses.

Despite the considerable accomplishments to date in offering our scientific, industrial, general, economic, and academic communities in this state open access to the information stored at Indiana University, it is my personal conviction that we are only at the threshold of a great new era in developing information networks that will stretch throughout this state and provide instantaneous access to the holdings of the University. Certainly, the new central library facility is at the heart of this system. I am confident that, as new technology becomes available, I.U. has the staff with the imagination to implement that technology and take advantage of the best parts of it. We have a superb staff of professional librarians working in our libraries. We also have a fine graduate library school, with Bernard Frye as Dean, that provides us frequent consulting advice with respect to development and application of new library technology and information services technology.

I have said almost nothing about the new building itself—Chancellor Wells has already mentioned it, and tomorrow afternoon Gordon Ray, our distinguished guest and speaker, will have much more to say about it.

If any of you are thinking of developing or planning a library similar to this facility, beware! It took decades of perseverance, imagination, and determination to complete this project. This new library facility was developed through different presidential administrations at I.U. It was conceived under Herman Wells and, after long and thoughtful planning by Director of Libraries Robert A. Miller, was built under Elvis Stahr. It started operating under our current President, Joseph Sutton. During the past fifteen years when it really began to move toward completion (and it did take fifteen years), President Sutton moved from being an instructor

in Government to chairman of the program in Asian Studies, to Associate Dean in the College of Arts and Sciences, to Dean of the College of Arts and Sciences, to Academic Vice-President, and now to the presidency.

We are now ready to dedicate our new library building. To reach the point has taken a tremendous effort on the part of many individuals. It has required sacrifices on the part of many faculty and students who have set aside their priorities for new space and facilities so that this Library, so essential to the entire University, could be built. We have only begun. The first comment that Chancellor Wells made as he started the introductions tonight was that he had confidence that we will not let the libraries languish in the future. Chancellor Wells, there is a statement by Milton inscribed in stone at the entrance of the old library building which says, "A good book is the precious life blood of a master spirit." We intend to see that that stays somewhere on this campus. In fact, I rather hope it stays there, for I see it frequently as I walk out of Bryan Hall. It is there to remind us of the central function and need for a great academic library. I can assure you that it will guide us in the future.

Joseph R. Hartley is Vice-President and Dean for Academic Affairs, Indiana University.

Academic Library Management: Traditional

by JOHN H. MORIARTY

Introduction

If Bob Miller expected me to summarize the multi-editioned treatises of Wilson and Tauber or of Lyle on academic library management in the few minutes assigned to me here, then the associations we have now been enjoying with each other over more than a quarter of a century will let him adjust quickly to the fact I am not going to do that. Such summaries would fit in other contexts but not here. What I will do is to describe impressionistically what has shaped my own managerial performance. I will, however, emphasize those aspects of it which, I have personally observed, also seemed to be typical of performances in libraries on campuses other than my own. Hopefully the story resulting will have some accuracy about managerial affairs generally in American academic libraries.

The Head of the Academic Library

A university library has generally prospered in an institution where the president has held the library in high regard and has himself at the same time enjoyed long tenure as president. Both characteristics have been needed. The president has all too often been the library's only friend. Universities are usually controlled by powerful departments or schools. These give the institution its reputation, enjoy the allegiance of alumni, attract students with talent and in numbers, and secure donations and grants. A president's power is often slight over such departments, and he can be sometimes no better than a referee or umpire among or between them. The budget is his main weapon, and usually much of that is fixed. So what he has to do is to disperse his always too small discretionary funds to heighten his impact and move toward the few selected goals he has picked for himself. The library has no alumni, does no conventional teaching of students, and receives relatively small donations. It is, however, neutral and can be made to serve most departments significantly, while typically belonging to none. So a president can use it and the funds he decides to give it for his own purposes and, at the same time, probably to bring about institution-wide improvement.

But libraries improve with maddening slowness, and a decade can easily pass before most users will sense any betterment. Consequently only a president with a long tenure or the happy (and not very often observed) succession of library-minded presidents has brought notable library development.

Still, as just hinted, tenure has not been enough; the president has had to have another characteristic. He must have had a "soft spot" for the library, have believed in the value of the library. And this value belief must have usually grown out of his personal experience. It probably has taken a personal faith in the library's value in order for a president to stomach its comparatively staggering costs. Value and cost are very different things, but managerial types tend to confuse these endlessly. And it has taken the support of a serenely unconfused president, warding off his anguished treasurer or business manager, to sustain the growth of the academic library in the spiralling library costs of the last half century.

Getting the president's support for financial needs has been, then, the head librarian's chief task in the recent past. He has probably done this best when he himself has been an individual much like his president and so able to maintain the rapport needed. The phrase often used to describe such a librarian is that he has had to be both a scholar and an administrator. Most people who wrote such statements probably knew little enough about scholarship and nothing at all about administration. The administrative capacity needed for most head librarian positions is likely to be small if viewed by industrial, political, or military standards. Actually the administrative know-how to handle the management of even a large academic library would barely match that of a prosperous department store or urban insurance agency. In the matter of scholarship it has had to be something else. The labeling of a traditional director of libraries as a scholar and an administrator is, I maintain, like labeling the well-known hamburger mix as horse and rabbit in proportions of one horse to one rabbit. The traditional librarian has had his best impact on the academic community when he has been regarded by this community and its president as a scholar. And at his best he has been one, or the equivalent, a connoisseur of scholarship. In this role he had had to meet environmental and media needs that range from the incoming freshman to the world-respected faculty member. He has often enough done this in a manner widely acceptable to American higher education.

In pursuance of this success he has had to play an academic role that is not often recognized. People might describe him as a scholar and administrator, but with the president and/or to the generally authoritarian leadership of his university, he has had to be a salesman. The sales pitch he has used has had to be adroit, well timed, generally low-keyed, practiced over the years, and on a very much *ad hominem* basis. He could often enough count on the president himself to have practiced scholarship and, as I have indicated, to be vulnerable to properly presented appeals. In this way the library head has been the chief fund raiser for his agency. Institutional appeals to donors and other funding sources have in general echoed the librarian's ideas and hopes.

There are now and there are bound to be in the future increasing changes from the above described setup. Long-tenured presidents are going to be rarer and rarer. Presidents who have actually practiced enough scholarship to make them truly library sophisticates are going to be equally rare. Instead of a long term, powerful, possibly scholarly president, there is likely rather to be a top administrative team. This team will include able persons, specialists, experts in various university problems, including the library as a problem—a problem, mind you, not a president's pet. The role of the librarian heading the institution's library in such a university complex will change. He will have to be an administrator, of course, running his shop in a decent enough way to impress the currently ruling administra-

tive clique; and he will have to be the same connoisseur of scholarship he has always been—this to gain faculty confidence and the respect of his staff and professional peers in other institutions. But I foresee that he is going to have to be more. He will continue to need sales skill, though possibly not in the way he has used it with an authoritarian president. The new role he must assume if he is to get the library funding needed is that of campus and even community politican. He must garner support of all major elements of the academic community. I have mentioned the faculty, currently the rising academic power group. But there are students, undergraduate and graduate, whose good will must be more actively sought by all academic administrators. And there are to be remembered the alumni, legislators, government officials both local and federal, and possibly even industrialists. Speaking as I am at Indiana University, a recipient of state and federal funds and an institution whose Lilly Library is a wonder of the state, I need hardly emphasize the potential effects of each of these groups in the community on a library's achievement. The head of the academic library in such a world cannot be an ivory tower type. He must be a participant in a meaningful way. Otherwise he cannot understand the forces afoot well enough to exploit them for library success.

This is the same activist role that university presidents are finding they have to fill. The library director of the next decade must follow their lead. Of course, many a sound man is today choosing not to be a university president or to be one for a short term only. I anticipate in the next decade that many a librarian will choose not to be an academic library director. But the importance of the work and, corny as it sounds, the opportunity of it should attract and develop some remarkably able librarians.

The Staff of the Academic Library

So much for the library head and his multi-faceted role. All facets are important, but fund raising, gaining increases in the budget, is the key one. If, however, the director is off making contacts, off politicking, who is to do the library work back at the shop? Who is going to perform the actual services that make the library a good one? Who is going to make it worth politicking for? Why, the library staff, of course. They have always done this work and traditionally have been the least known, the least appreciated achievers on any campus. The causes for this have been extraordinarily complex. Today there is no time to detail the long, sad story of library personnel. I took a course years ago at the Columbia University Graduate School that was called Library Personnel. We were led through the standard lists of generalized personnel problems that might be met in any institutional situation. We reached the topic, occupational hazards. I well remember Professor Ernest Reece saying in what we called his "dead earnest" way, and here I quote: "Library staffs don't face many of the usual occupational hazards. I have observed though that they are very subject to nervous breakdowns."

And well might library staffs be subject to nervous breakdowns. There has never been any proper managerial control of work loads. You all know that the old-fashioned country doctor had to be at one time his own nurse, laboratory assistant, liveryman, accountant, bill collector, and what not, all in addition to doing his professional medical work. This phase has long and happily passed for most medical men. But for many types of librarians, notably those in school, special, and small public libraries, one lone professional on duty to do all tasks still obtains. In many small colleges and in many departments of comparatively large academic library

systems the practice still perniciously persists and degrades library positions in job classification parley.

It also has historically been the situation that no consistent relationship has been maintained between intake of quantity of library materials and of numbers of users to be served on one hand and the staff numbers needed to handle them on the other. Funds for books have regularly been accepted without matching funds for cataloging; even if funds for staff have been allowed, the purchase or receipt of books has always begun long before possible recruitment and local orientation of personnel could be provided. Rising enrollments have not produced matching reader service positions. And the problems have not only been with numbers of books and readers compared to staff members. As libraries have taken on exotic language collections, rare books, manuscripts, archives and other nonconventional types of materials, the specialized personnel talents to handle these have not been recruited at the same time.

The results have been most unhappy from professional and morale points of view. In trying to do "something" about all this varied flood of documentation and users, the people on academic library staffs have often had to appear to scholars and specialists among library users as inept and ignorant. The undergraduates have had to shift for themselves and have fully realized it. As I have seen library staffs struggle with such problems, I have sometimes remembered a story told of Florenz Ziegfeld, the once famous musical revue producer. It dates me, but I learned of it as a contemporary. Ziegfeld was up at Carnegie Hall on business and chanced to hear the great coloratura soprano, Galli-Curci, peal out one of her high C's. The next day down at the Winter Garden Theatre he was attending a rehearsal and watched a line of chorus girls dance off with a high kick. Apparently this did not have enough excitement to Ziegfeld's thinking because he called out to the director, "Say, why don't you have the girls as they go off there sing in high C?" And I would indict many library directors, including myself, and the academic hierarchy back of us, of expecting results just as unrealistic of library staffs.

The tradition has been to meet library work problems by "home-grown" talent. Though the base of at least one-year postgraduate work for professional academic librarians has become generally accepted just in the past generation, this base is a weak enough one for the mounting needs of more numerous and sophisticated users and more complicated library stock.

It is also an inappropriate and hard-to-defend situation, especially in an academically oriented complex. A key purpose of American higher education is to give professional training that will put its graduate ahead of the on-the-job trainee. For a library staff member to claim status in an academic community for his work experience poses something like a threat to his institutional colleagues in law, medicine, and the like who have left behind the nineteenth-century practices like reading for the bar in a law office, or working with the country doctor on his rounds as professional training.

The need in universities for library skills of greater sophistication has been known for a long time. A considerable development of them by the on-the-job practitioners has been effected. Segregation of professional duties from clerical has been partially worked out, partly through deliberate management decisions, partly through the shortage of professionals in the 1950's and 60's. The current demands for self-determination in professional duties and for specific and defined academic status for professional librarians have grown partly at least out of these changes. The

academic community's general acceptance of these demands is still to come.

Even if fully defined academic status is formally granted, the professional librarian on a university campus is going to need and to achieve more formal education. This is bound to come because it is wanted by librarians for their successors, certainly, if not for themselves. The fact is, of course, that it will be required by institutions. And with the plethora of Ph.D.'s in many fields which will be on hand in the next decade and a half, there is bound to be a spillover of these into librarianship. This was true in the 1930's and will be true again in the 1970's and 80's.

The Users of the Academic Library

Some points about the library director and his funding duty and about the library staff and its status have just been described. Most of you could think of much more to be said about these, but in our time here I feel we should move on to what we have and have not done for the library user. The truism that he has been and will always be the whole and real reason that the library should exist still needs stating every now and then. Of course, who and what he is has been one of the least-studied subjects in our much-challenged library science. I have on more than one occasion in recent years, while library costs have been so steeply rising, been asked why we can't cut down on who uses the library. In reply I have been called on to tell who is eligible. I detail the 8,000 or so freshmen and sophomores; the 7,000 or so juniors and seniors; the 6,000 or so graduate students; the 2,000 or so faculty; the 300 or so administrative staff; the 1,000 or so faculty and staff wives; the 1,000 or so faculty and staff children; and the alumni whose diplomas read that the degree carries "all the rights and privileges appertaining thereto." The only right I believe many ever exercise is to use the university library, and there are 3,000 Purdue alums living in Tippecanoe County alone. Then there are the professional men in our community, such as ministers and doctors, who help the university and who must be and are served by the library. All faculty and students of the four state universities of Indiana can use each others' libraries. And I'll stop, but not before pointing out that all Indiana industrial personnel and citizens have access for reference service to the library and can and do obtain access to material by interlibrary loan from Purdue through their company or community libraries. When I have asked the university administration to help me decide whom to cut off, I have also been told "they" would think it over, and, then time after time, months or even two years or more would pass before I was asked the same question again. Yes, the question would come again, and I would repeat the answer. No decisions to cut down have ever been reached. This answer is not unique to Purdue, or I would not cite it here. The fact is that the university library faces a scale of demand for knowledge, from elementary to esoteric, which almost defies understanding. Our library has bought materials for the most secret and blue-sky military research on one order and on the next order has requisitioned "easy" children's books for the Purdue University's nursery school's use.

When demand is so extensive and so random, can the library standardize, can the library prescribe? The library has been properly enough, I believe, an institution responsive to its users. Any major economy must come from the university's restraint on itself. If the university defines itself, narrows its efforts to be alma mater to all, the library too can limit itself. In my time I have seen nothing but the reverse. The university has moved progressively into the thick of human affairs, pulling its library willy-nilly

with it. As universities are nothing if not viable, I will permit myself to say I can foresee no present, certainly no imminent, end of this. Universities as institutions will persist in doing whatever will continue their existence, and almost certainly this will mean wider activities; and their subagencies, their libraries, will continue to respond.

And this response will be bound to become more refined. Student unrest has not exempted the library as a target. More specific services, more personalized and adequate services for undergraduates are certainly called for. A director who is more political, alert to student, parent, and legislative attitudes, and not so wholly a managerial or scholarly type must sense and act on these demands. The faculty and their demands, often enough and perhaps properly more concerned with superspecialized scholarship and even personal consulting, must be heeded. The librarian's impulse in the future as it has been in the past must be to give everything asked to every user.

Mind you, what I just said was "the librarian's impulse." And for his own selfish reasons he should welcome even "outrageous" demands from his users. Significant, able, and demanding users are the best training and support for significant, able, and professional librarians. But neither individual-user wish nor librarian impulse must prevent both user and librarian from a basic understanding of the institutional library. It does not exist solely for a particular user nor as a forum for the exercise of any one librarian's skill. The academic library is a shared service, not a personal or office library. The image of an officious librarian rubbing this reality into an avid user's face is a famous caricature. However anxious to avoid such cartooning the librarian may be, it is still a major function of his to see that the user understands both his rights and limitations. In the past this aspect of management on the part of librarians, namely the public relations tactics proper in the education of users to their responsibilities in sharing library use, has not been distinguished. It has been timid or brusque, anything but ably managed. And the users have spotted our awkwardness, particularly the lack of any real channel of organized feedback from academic user to academic library manager.

This is my last *mea culpa*.

Concluding Remarks

In conclusion I would remind you that I have discussed the past and changing managerial problems of library funder, the library servicer, and the library user. I am not particularly happy about what I have had to say or how I have said it. I am deeply conscious now, and I suspect I have always been, of the unscientific nature of current librarianship. It has tried in my time to use the behavioral sciences. These have been as sorry a crutch for us as they have been for our government. This condition of librarianship is due partly to its youth but may also be due to its too conscious mimicking of the physical sciences. It has been my lot to serve physical scientists all my life, and some knowledge of theirs has come to me. I know that these men's goal, while unattainable actually, is to control nature, and they are having some successes. These successes, modest enough, have badly diverted the behavioral scientists, who seem to hope to allow managers to control human beings. This of course is an obscenity. If the behavioral sciences teach us any control it should be self-control —better for each of us to control himself than any other man. The goal of the behavioral sciences then should be love, the love and understanding of mankind. When these are achieved sufficiently, maybe the behavioral

scientists will make real breakthroughs so that the librarian can turn to them with his problems, just as the medical doctor now turns to the biomedical sciences. That will be the great day in library management.

The late John H. Moriarty was Director of Libraries, Purdue University, 1944-1970.

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Service and Housekeeping: Changing Professional and Nonprofessional Responsibilities in the Academic Research Library

by ELDRED SMITH

The librarian in the academic research library today truly stands upon the brink of a brave new world. Never before has there been such a need on the part of the academic community for substantial library service, a need which offers the librarian, if he can meet it, the professional fulfillment that he has sought so long. At the same time, a major obstacle lies in the way: the academic library itself, its goals and organization. If the academic librarian is to respond effectively to increased clientele demand, the library in which he works must change. It must make substantial professional service its dominant goal. It must free its professional staff from housekeeping concerns so that they can provide this service. It must make its housekeeping operations more efficient and put them, to a much more considerable extent than in the past, in the hands of nonprofessional personnel. Such changes are going to require effort, and they will not be accomplished overnight. However, prospects seem increasingly good, not simply because of the growing urgency of user demand, but also because a number of developments within academic libraries are clearly moving in this direction.

There are many reasons for recent increases in the library needs of the academic community. Among the most important are: the rapid growth of published information, the increasing pressures of research, the expansion of interdisciplinary interests, and more and more emphasis on individual study, even at the undergraduate level.

The fact that publication is increasing at an exponential rate has become almost a commonplace in educated circles. However, the full implications of what this means are not quite so widely recognized. It is not simply a matter of numbers. For as publication grows in size, it also grows in complexity. Monographs, journal articles, technical reports, government publications, in all languages and fields of knowledge, from all over the world, are proliferating at an astonishing rate. Where a generation ago a scholar could keep up with the literature of his field through a few journal subscriptions and occasional library visits, this is no longer the case. Now there are a considerably larger number of journals and monographs published in almost every field; and there is also pertinent material in government documents, a variety of technical reports, and even more ephemeral publications.

Consequently, the scholar must depend more and more on bibliographies, indexes, abstracting services. And as even these have begun to proliferate, it is increasingly difficult for the individual scholar or his research assistants to maintain an effective command of this range of literature without expert assistance.

This problem is complicated by the pressures of research. Just as the volume of published information has proliferated in every field, so have the numbers of scholars. Competition has increased and with it the need to carry out one's investigations as quickly as possible. As a result, each scholar must have rapid access to the literature in his specialty, both as a basis for his own studies and to be sure that he is not duplicating the scholarly accomplishments of others.

At the same time, there is increasing pressure for scholars to venture farther and farther outside their fields in pursuing their research. This is true not simply of those who are working in coordinated programs such as area studies or in new interdisciplinary fields such as ecology, but of an increasing number of more traditional researchers as well. As the knowledge of each field grows, new information is developed which has ramifications that extend outward into other disciplines. Scholars must keep apprised of such developments and determine application to their own work. Consequently, if they are increasingly less in command of the literature of their own fields, scholars require substantially more assistance in disciplines with which they have little or no familiarity.

Finally, recent trends in higher education are placing greater emphasis on individual study for the undergraduate as well as for the graduate student. The student, therefore, is not only spending less time in large lecture rooms and more in small study groups and individual conference, but he is also conducting more individual research in the library and relying less on texts or reserve materials.

All of this means that students and faculty alike are or will be looking for more substantial bibliographical and informational help than they have required in the past, and the proper place for them to look is the academic library. However, they are not going to get this caliber of assistance from the library unless there are librarians there with the knowledge and ability to help them.

The basic requirement that such a librarian must meet is that he be thoroughly knowledgeable in the literature of a discipline and equally knowledgeable in the information needs of the faculty and students working in that field. As Abraham Kaplan has noted, "Surely knowledge of the users . . . of information must always remain fundamental" to the librarian.[1] Indeed, the librarian must have something closely approaching, if not equivalent to, the specialist's knowledge possessed by the scholars with whom he is working. However, where they specialize in various subfields within each discipline, he must specialize in its literature, the bibliographical control of this literature, and the patterns of its use.

Thus, a librarian-specialist in history would not be an expert in French intellectual history or in the American Civil War, but in historical literature, its bibliography and its use. He must know it well enough to build a collection that will meet the current needs of the history faculty and students—and other faculty and students who use the history materials—as well as provide for further needs. He must be involved not only in the development of the collection, but also in its cataloging and classification so that those who use it can make the best possible use of it. Nor is this a simple or routine matter. For despite the important developments in cen-

tralized and cooperative cataloging, which are eliminating unnecessary duplication of effort, it is true, as A. J. Foskett has noted, that "each library operates in its own situation" and must be able to adapt general principles and cooperative effort to "a scheme uniquely suitable for [its] own place."[2]

The librarian-specialist must help those using the collection not only by providing advice about it, its indexes and bibliography, but also by instructing students in how to exploit the complex resources of a research library. Finally, he should himself contribute to the bibliographical or information process scholarship of his field.

In doing this, the librarian must obviously have strong ties with his clientele. He should have a continuing contact with each faculty member and be aware of their research interests. He should meet each of the students, ideally through a required course which he should teach in research methods and library use. He should attend departmental meetings and be informed of the department's immediate and long-range programs.

At the same time, he must not give up his base in the library. For it is particularly because of his knowledge of the library, its collection, organization, and operation, that the librarian-specialist is able to make his unique contribution to the educational and research program of his university. Consequently, he should not be a professor with bibliographical or library interests, but a librarian with library education and experience who also has sufficient knowledge of a broad subject field to understand its information and bibliographic needs.

It is said that people with this background are not easily found by or attracted to libraries. While this may once have been the case, it is no longer true. Libraries can find such librarians and can recruit them if they will make a library career financially and professionally rewarding. The last requirement is, perhaps, the most crucial; for it means utilizing these librarians as true professionals. And historically academic libraries have, unfortunately, created substantial obstacles to genuine professionalism.

The activities that have generally been carried out by academic librarians are not those that would be recognized as professional functions by students of the subject. Academic librarians usually perform a management function, no matter how small, or practice the technique of cataloging, reference, or acquisition. Management has, of course, long been recognized as quite different from and even antithetical to professionalism.[3] The other functions that librarians perform are, more often than not, so circumscribed by regulation and routine, so lacking in autonomy, individual judgement, and expertness, as to qualify far more as bureaucratic rather than professional activity.[4] There is little professional about an acquisition librarian who spends his time on bibliographical verification or even on the routine review of a national bibliography or blanket order shipment; there is little professional about a cataloger who rather automatically applies the principles of Library of Congress or Dewey to a given number of books each day—usually trying to maintain an acceptable volume of productivity—without real knowledge of the field in which he is cataloging or of the needs of the library's clientele and how they use the catalog; there is little professional in a reference librarian who answers routine and substantive questions with equal indifference to and lack of knowledge of the questioner and his library needs.

Such librarians are guided primarily by institutional routines, regulations, and values. Their relations to their clientele are, at best, indirect or fragmentary. Their involvement with any subject or area of the collec-

tion is incidental and usually through the medium of book trade lists or cataloging rules. Their activity tends to be determined and limited by an institutional division of labor along work-flow lines: acquisition, cataloging, reference. Moreover, this is a work flow of materials, not information —which should be the business of the librarian. It is determined by the physical carrier, not by what is carried.

As a consequence, these librarians have largely superficial and quantitative, rather than qualitative, values: the number of books acquired or cataloged, the number of reference questions answered; not the extent to which the collection has been developed, the bibliographical or informational service provided to their clientele. Frequently they become so involved in routines and procedures that these become ends in themselves, such as bibliographical verification procedures or circulation rules. Such librarians are, truly, housekeepers whose primary function is maintaining a unit, enforcing rules, establishing and keeping schedules.

Librarians working under such conditions may be good organization men; they may keep the materials flowing into the library and continue to answer, even though at a mediocre level, the questions directed to them; they may continue to catalog by the rules. However, they cannot supply the sophisticated bibliographical and informational assistance that the academic community needs. Whether it is a matter of freeing the qualified librarians we have of restrictions or of recruiting qualified librarians from outside—and probably both will be necessary—considerable change must take place in academic libraries if they are to provide such service.

First, truly sophisticated bibliographical and information service must become the dominant concern and goal of the academic library. Second, the librarians who are to provide this service must not be tied to the material-flow divisions which form the basic components of library organization; and they must be freed, also, from bureaucratic restrictions such as fixed schedules, explicit routines, close supervision. Finally, librarian-specialists must be organized in a much more flexible way than in the past so that they can relate directly to sections of the collection on the one hand and to the clientele using that collection on the other. However, they must also be able to involve themselves in all of the library activities related to that collection and clientele—collection building, cataloging, reference—rather than be restricted to any one of them; and they must have latitude to involve themselves in each of these processes as the needs of the clientele demand. This would truly change the librarian from a cog in a materials-processing system to someone who is making an important and necessary contribution to the knowledge flow within his institution.

Of course, this does not mean that the system of departments organized around the flow of materials, which is the dominant structure of the modern academic library, should be abandoned. There are still the qualities of material to acquire, to process, to circulate. However, it is becoming increasingly evident that most, if not all, professionals involved in this area of library operations do not really belong here. Those who are doing routine work are generally overqualified for it, even if they are underqualified to perform as specialists. Those who are functioning as middle managers in processing, circulation, record-keeping may well be deficient in the skills that are most necessary to supervise these operations effectively. It can well be asked whether it is more important for such personnel to have management and operations skills or a library degree. Certainly, many complaints have been leveled at the poor quality of management training

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in library schools and the general weakness of middle management in libraries.

Further, if more nonprofessionals were introduced into such positions, this would provide a much more substantial career ladder for nonprofessional staff within the academic library. It would mean fewer frustrated librarians who did not enter the profession to become managers and found themselves occupying positions that fit neither their talents nor their ambitions. It would also enable libraries to draw on outside talent that now largely eludes its grasp: people with management and personnel training and experience. It would place library housekeeping in the hands of those who are trained for and suited to such activities.

In doing this, the library would be following a pattern which has been established by other knowledge-based service organizations such as hospitals and universities. As Etzioni has noted, such organizations have:

> two types of authority but only the nonprofessional one is structured in a bureaucratic way with a clear line and center of authority. Various department heads (office, custodians, campus police, hospital kitchens, and the like) are subordinated to the administrative director and through him . . . to the head of the organization. This line is responsible mainly for secondary activities. . . . The professionals who conduct the major goal activity do not form an authority structure in the regular sense of the term.[5]

Quite the contrary. Of necessity, such professionals have to be organized in patterns that are loose, flexible, adaptive. Their contribution is not carrying out particular specified tasks but applying their expertise to a range of related problems. They must be grouped, as Bennis in his analysis of the modern professional or "knowledge worker" has noted, into flexible "systems of diverse specialists, solving problems, linked together by coordinating and task-evaluative specialists."[6]

These coordinating specialists are, of course, the institutional administrators, the library directors. They must coordinate the work not only of the specialists, but also of the processing units. Consequently, they must be skilled in both management and librarianship so that they can integrate the service and housekeeping operations. As Miles and Vail have indicated on the basis of their analysis of the management of highly professionalized service and research organizations, "The chief executive should be a well-integrated combination of manager and professional."[7]

What is perhaps most encouraging to anyone involved in academic librarianship is not just that such possibilities lie ahead, but that there is a strong movement in their direction. There is hardly an academic library of any size that does not have some librarians who are functioning as specialists. Some are subject or area bibliographers; others are government publications or map or rare book librarians. Perhaps more often than not, the specialist is a branch or departmental librarian who is related to a special collection and its users; who combines collection building and usually some cataloging with a variety of reference or information services; and who often has the added advantage of considerable independence—due, if to nothing else, to his physical remoteness.

If we observe these specialists functioning effectively—and many of them, unfortunately, do not—we see that they know their clientele and collection, that they concern themselves with making the cataloging of that collection meet clientele needs, and that frequently they play strong—even

formal classroom—roles in educating their clientele to make maximum use of the collection. Finally, they have sufficient scope and flexibility so that should new needs arise—as with the development of new programs in ethnic studies or ecology—they can combine efforts to help work out the collection and service support that are required.

At the same time, other changes are taking place in library processing units. Librarians are being phased out of housekeeping jobs such as bibliographical verification or the routine application of Library of Congress cards to cataloging. Nonlibrarian managers are appearing increasingly in circulation and processing departments as well as in personnel and business operations. The introduction of automation and the application of systems analysis is, indeed, speeding these processes along.

Changes are even beginning to appear in library organization and administration. Specialists are crossing older divisional lines and becoming involved, simultaneously, in collection development, cataloging, and reference related to a collection area. Such librarians are also being given unprecedented latitude to carry out their functions: they are not held to fixed schedules; they may involve themselves in the activities of more than one unit; they spend substantial portions of their time outside the library in direct contact with their clientele. In addition, some of the bureaucratic rigidity affecting all librarians is being relaxed in many academic libraries, and more and more librarians are being provided with an increasing measure of "voice" in library affairs.

To a considerable extent, however, these are still marginal developments: most librarians remain overly enmeshed in processing routines and overly hampered by bureaucratic regulations. Substantial involvement in decision-making is still often more apparent than real, with libraries following a pattern that one researcher observed in the management of scientists in research firms: "tempering [their] authority with friendly informality of the 'happy family' variety" on the fallacious assumption that this "contributes to the colleague system."[8] And the general level of academic library service remains unfortunately low.

Nevertheless, the changes that are taking place do indicate the future direction of academic library organization and activity. What remains is for academic librarians to assess these trends and make a conscious decision about the future of academic library service. For as Don Swanson has noted, "The very existence of libraries . . . is not to be regarded as a goal, but rather as one means of fulfilling a requirement for information services."[9] These services must be made paramount, they must respond to the needs of the academic community, and they must control—and not be controlled by—the housekeeping functions that are necessary only because they support them.

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Footnotes

1. Abraham Kaplan, "The Age of the Symbol—A Philosophy of Library Education," in *The Intellectual Foundations of Library Education* (Chicago: University of Chicago Press, 1964), p. 12.

2. A. J. Foskett, "Library Education: The Role of Classification, Indexing, Subject Analysis," in *Intellectual Foundations*, p. 77.

3. Stephen B. Miles and Thomas E. Vail, "Thinking Ahead," *Harvard Business Review* 38 (January-February 1960): 150.

4. The antithetical traits cited are taken from Simon Marcson, *The Scientist in American Industry* (New York: Harper and Brothers, 1960), pp. 148-49.

5. Amitai Etzioni, "Authority Structure and Organizational Effectiveness," *Administrative Science Quarterly* 4 (June 1959): 60.

6. Warren G. Bennis, *Changing Organizations* (New York: McGraw-Hill, 1966), p. 12.

7. Miles and Vail, p. 154.

8. Marcson, p. 146.

9. Don Swanson, "Introduction," in *Intellectual Foundations*, p. 2.

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Staff Role in Goal Determination

by DAVID KASER

Decision-sharing in goal determination is very old. The populace in the city-states of Greece fully two and a half millenia ago discussed and voted on issues in public assembly, and officials were chosen by lot. The word *democracy*, as we know, is a direct borrowing from the Greek, where *demokratia* literally means "rule by the people."

Democracy, unfortunately, has had always to compete for its existence with other less noble concepts of government because just as there is in all men a spark of immortality, so is there in each of us an elemental animal instinct that goads us to ends in conflict with that immortality. As we observe the deadly combat between two bull elephants for supremacy of the herd, we learn the unarguable apothegm that "Might makes right," and men through the generations have pondered the inherent incompatibility of this lesson and the higher and more laudable concepts of democracy.

Idealists among us have proclaimed the high virtue of democracy, some to the point of martyrdom; strong princes, on the other hand, have practiced absolutism, some to the point of self-destruction through overthrow and regicide. By far the majority of men, however, lacking the strength of character necessary to preserve either one or the other of the two extreme positions, or perhaps out of a kind of homely wisdom borne of pragmatic empiricism, have sought some kind of middle road.

Middle roads on so rudimentary an issue are difficult to find. The two extreme positions are diametrically and irreconcilably opposed one to the other, yet martyrdom for an ideal is impractical, and permanent rule by naked force is illogical. Thus the history of modern man is marked by a vacillating succession of efforts to devise workable compromises, however contradictory they may be fundamentally, or however unsatisfying they may be intellectually, which will utilize as many as possible of the desirable characteristics of the two opposing concepts. Witness the philosophical absurdity of such familiar saws as "God helps those who help themselves," or "Trust in God, and keep your powder dry," or "Praise the Lord, and pass the ammunition." Note even the conclusion of this latter maxim: "Praise the Lord, and pass the ammunition, and we'll all stay free!" Somehow the majority of us seem over time to accept the notion that our democratic liberties function best when husbanded under the protection of brute power.

The Romans were the first to weld these two opposing concepts into a practical government. They lodged enormous executive authority together with a tightly conceived administrative structure in the hands of their emperor, but patricians and plebeians alike participated in the processes of government, and the emperor ruled only with the consent of the governed. Few will deny that, despite occasional and dramatic lapses, this compromise provided the Romans with a very effective administrative framework that served them well for centuries. History since that time has seen other similar attempts, some more successful than others, to reconcile the seemingly irreconcilable natures of these two traits.

Although participation is a venerable practice in government, it has until recently been less apparent in management. Historically business and other service enterprises have been small enterprises, with an administrator or implementer or master at their heads, and one or two or three or some other limited number of journeymen or yeomen working within them. The drive for participation in such small enterprises was met on an hour-to-hour and day-to-day basis through close personal contact between master and journeyman. Indeed, the very noun *journeyman* meant an artisan who was free to negotiate the sale of his services on a daily basis if he chose to do so. He could terminate his contract at any time he felt that the enterprise was moving out of phase with his own interests and concerns.

It is a phenomenon of modern times, however, that today's enterprises are big enterprises, often comprehending the skills and talents of thousands of individuals, often encompassing diverse products and myriad concerns, often sustaining widely various pressures and considerations, often embodying distant and complex goals and purposes. For obvious reasons, big enterprises lack the kind of close personal contact among their many divisions and echelons that typify small enterprises and that contribute naturally and simply to sound communication and full participation.

Large enterprises therefore require formal and artificial mechanisms to assure a free flow of information and a satisfactory level of participation. Participation, after all, is beneficial both to the individual, who gains therefrom a continuing sense of his freedom to decide for himself, and to the community, which gains from the contributions of many minds, rather than from only a few, toward solution of its problems.

Some libraries have in recent years become large enterprises, and as such they have come to share the same tribulations and opportunities as other large enterprises. Major among tribulations is the intricate complexity that so often accompanies size, but major among opportunities is the occasion to develop democratic mechanisms, thereby furnishing to the individual an outlet for the human urge to share in goal determination, while concurrently tapping new sources of energy, ideas, expertise, enthusiasm, wisdom, and concern in the interest of the enterprise.

In conceptualizing a social model for operating a large library, an apt analogy can perhaps be found in the Roman application of democracy, wherein there existed a carefully designed administrative system for facilitating the implementation of program, but where the program itself was determined with the advice and consent of the people. It is perhaps simpler to view this Roman concept as two systems operating in parallel. The first, or the peer structure, made broad decisions and then delegated much operating authority to the second, or implementing structure, but retained the right to draw it back or overrule it whenever it chose to do so.

Insofar as the nature of a peer structure appropriate to a large library is concerned, it would perhaps be difficult to find one better than a simple assembly of librarians. Such an assembly, meeting at regular intervals, can provide a forum with equal opportunity for all librarians to speak their minds on any issues of concern to them, to develop programs through conventional committee structure, and to take pertinent action in accord with sound parliamentary practice.

It must be recognized that, for a number of reasons, some librarians have in the past been reluctant to voice publicly those of their thoughts or views which they felt might prove unpopular with the heads of their administrative units. If a librarians' assembly is to function effectively, of course, this reluctance to speak one's mind has to be overcome. Mechanisms, sometimes including peer involvement in promotion and job protection through tenure, need to be established to secure them from fear of retributive action by capricious administrations.

The benefits of peer assessment without concurrent tenure, however, can too easily be offset by a vindictive administration if it chooses, simply by accepting an unwelcome recommendation for promotion and subsequently terminating the individual at first opportunity. Tenure without peer assessment, on the other hand, can encourage the obsequious currying of favor from one's supervisors. For greatest effectiveness, moreover, peer assessment and tenure should best be coupled with a rigorously applied "up-or-out" policy. Otherwise a locked-in bureaucracy, a geriatric oligarchy stifling of creativity, resistant to innovation, and smugly complacent in the historical sufficiency of the status quo, can prove to be the unhappy result.

It is perhaps undesirable, or at least unnecessary, to attempt to define too specifically the proper sphere of activity for the peer structure. Obviously its authority cannot extend beyond the boundaries laid out for the library itself by its parent body, but presumably it could, if the assembly so chose, comprehend everything that lay within those bounds. Long-range goals and objectives, performance and service standards, and the monitoring of those standards would appear to be issues that any librarians' assembly would wish to reserve unto itself. It is difficult, at any rate, to envision any peer structure willing to relinquish determination of such matters to any extraneous body.

Beyond these broad concerns, however, the librarians' assembly would be able to delegate to an implementing structure as much of the executive authority necessary for program fulfillment as it wished. Although we appear to be living again in an Age of Romanticism where there is distrust of any system—the fear apparently being that systems lend themselves to manipulation and machination—few fail to recognize the great inefficiency and diseconomy of seeking all decisions, large and small, through the Committee of the Whole. Still, in the last Romantic Age, Rousseau proposed, simplistically perhaps and with imperfect historicity to be sure, that such was the origin of ideal government wherein the entire community gathered under a tree and sought accord on all issues, however small. Some libraries therefore, especially those in which a large credibility gap has developed between staff and administration, may also find such rustic simplicity attractive for a season, but doubtless most peer structures would choose sooner or later to hand over their broad decisions once made to an administrative structure for implementation.

For an implementing structure it is difficult to propose one more appropriate in form for the task before it than the traditional pyramidal

structure, the inverted tree wherein every individual has both responsibility and authority for the activities that occur directly below him. This again is a structure that has proved itself over generations past and is likely to remain with us for many generations to come. It has the virtues of simplicity, of enabling everyone to know exactly for what and to whom he is responsible, of permitting a flow of reports up and decisions down, of facilitating the establishment of optimal spans of control at all echelons. These are blessings devoutly to be cherished, as they are not easily found in such abundance in other structures.

There is in 1970 a measure of discontent with the pyramidal administrative structure for large libraries, however. Often this unease is vague and diffuse, and I sometimes suspect that with many people the structure has simply become tainted by its association with the currently unpopular "military and industrial complex" where it has long been used to fine advantage. There are, however, at least three valid primary causes for discontent with it, although in my judgment all three can be overcome.

First among the primary causes of discontent with the pyramidal structure in libraries is that its use frequently requires that librarians with substantial subject training apply their skills within a limited functional unit of the library rather than wherever they may at a given moment be needed. Thus a librarian with strong competence in say biometrics or French history must use his competence only in his assignment as an acquisitions librarian or a reference librarian or a catalog librarian rather than in whatever functional area it happens to be needed. Some feel that such restricted use of subject expertise, doubtless in short supply in the first place, is wasteful.

This certainly is a valid weakness, although some of its most insidious results can be offset by using subject specialists more as staff officers with wide-ranging advisory responsibilities than as line officers with authority to make operating decisions. There is moreover some useful experimentation currently underway which is attempting to find new structural models which can utilize subject skills more economically by using them more fully. Perhaps the matrix structure, recently introduced into some industries with passing success, may find its way into large libraries. This system attempts to employ a grid of skills and talents both laterally and vertically across an operating assignment so as to allow every member of the enterprise to give free rein to his abilities. Important problems of responsibility and authority inhere in this design, but if they can be overcome, it may yet find a role in large libraries.

A second criticism that is sometimes lodged against the traditional pyramidal administrative structure is that it is too easy for weak unit heads to filter communications both up and down the chain of command to the detriment of the enterprise. Such unit heads, it is said, report upward only those activities in their units that make them look good, and they are careful to hand downward no information that would enable members of their staff to threaten their positions or power. The less secure the unit head becomes, the less information he passes on, until finally everything grinds to a halt. He knows that he cannot advance, and he takes care that he will not retreat; as in the Peter Principle, he has reached his first level of incompetence.

Again it must be admitted that communications can founder in the pyramidal structure as they can in any other structure, but this seems hardly to be a weakness of the structure so much as a weakness of human nature. The right to appeal, after all, exists in almost any structure, and

it is difficult to believe that either an aggressive, dynamic staff or a capable, alert administration will long permit a unit head to screen out communications except to his own disadvantage. Good communications deserve the attention of everyone in the enterprise because intelligent participation can only proceed out of an informed constituency.

Still a third animadversion often directed at the traditional organization chart is that it centralizes too much decision-making authority into the hands of the several unit heads. As with the first two problems, this third can also certainly occur, but with care it too can be circumvented. It is indeed a wise unit head who seeks the advice and involvement of his entire staff, no matter how small, before settling upon an appropriate course of action for his unit. Participation is just as important, after all, on small issues as it is on large. It is nonetheless true because it is homely that "two heads are better than one."

Is there then a function remaining uniquely appropriate to the administrator? What is left for him to do, if all broad policy decisions are accomplished in the peer structure through the Committee of the Whole and all operating decisions are made in the pyramidal structure by the entire staff at the echelon where needed? Does he become only a kind of convener or executive secretary, with responsibility only for recording the decisions of others? Well, I believe this is certainly a part of his responsibility and not an unimportant part at that. Simply facilitating or expediting the work of the group is a very important function, and "housekeeping" in a library, as in a home, is much more deserving of appreciation than present levels of opprobrium toward the term would seem to indicate.

But leaders must also lead; they must also inspire; they must also provoke; they must make decisions in the clutch. When someone throws a firebomb into the newspaper room, no one expects a leader to appoint a committee to decide what do do. He must be prepared to take immediate action, and it must be wise action. The leader must in more normal times, however, prod everyone to participate not only in decision-making as appropriate, but also in the implementation of decisions as well. The administrator who stands by waiting to be driven by his staff is unlikely to remain an administrator long. He must, it seems to me, be always in the vanguard, be always guiding his staff to take the long view instead of permitting it to settle for the chimerical benefit of the short goal, be always communicating to them the considerations necessary if their participation is to be of maximal value. In the library, as in Rome, both the peer structure and the administrative structure can, it seems to me, stand together with each buttressing the other, thereby giving unprecedented strength to their common enterprise. That enterprise, however, can be common to both structures only when there has been widespread participation in the determination of its goals and the methods of attaining its objectives.

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